The Economist

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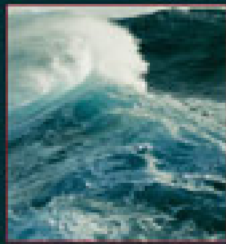
Acid waters, dying corals, melting ice caps, rising slime, a plague of plastic and a dearth of fish...



A 16-PAGE SPECIAL REPORT ON THE SEA

Gaza: the rights and wrongs

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Print edition January 3rd 2009

Gaza: the rights and wrongs
Israel was provoked, but as in Lebanon in 2006 it may find this war a hard one to end, or to justify: leader

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The world this week

Dec 30th 2008
From The Economist print edition

Israeli aircraft attacked targets in the **Gaza Strip** linked to the Islamist Palestinian movement, Hamas. Some 350 people were killed; according to the UN dozens of these were civilians. Israel's government said it intended to force Hamas, which ended a six-month ceasefire on December 19th, to stop firing rockets at nearby Israeli towns. The UN and governments across the world called for a ceasefire, many of them declaring Israel's actions "disproportionate". See article

Guinea's despotic president, Lansana Conte, died on December 22nd after 24 years in power. His death prompted a coup by army officers led by a hitherto unknown captain, Moussa Camara. The African Union demanded a return to constitutional rule, but Senegal's president supported the new government. See article

India and **Pakistan** made an effort to ease tensions that have arisen since November's attack on Mumbai by gunmen. Pakistan's military chief said he wanted "peace and security in the region". Officials from both countries said they had discussed recent troop movements amid persistent reports that forces were being redeployed along the border.

At least 40 people were killed by a car suicide-bomb in Pakistan's Buner district, near the **Swat valley** where security forces are fighting militant groups. The Taliban said it had carried out the bombing as revenge against villagers who assisted the security forces.

Bangladesh held its first general election since the army-backed caretaker government took power in January 2007. The unusually clean ballot was a landslide win for the Awami League headed by Sheikh Hasina, a former prime minister jailed for corruption (along with the leader of the opposition) but released in order to contest the poll. See article

Belgium's parliamentary speaker, Herman van Rompuy, was asked to form a government after the collapse of the coalition led by Yves Leterme. For now Belgium will have a caretaker government, as so often in the recent past.

In a countrywide vote of 5m people, Russians chose Alexander Nevsky, a medieval prince, as the **greatest Russian** of all time, only a little ahead of Joseph Stalin, the front-runner in early polling

On the eve of ceremonies marking the 50th anniversary of the **Cuban revolution**, the country's National Assembly approved a law delaying the retirement age by five years. Saying that the state's "accounts don't square", Raúl Castro, Cuba's president, also curtailed subsidised holidays and other perks. See article

A beauty queen was among eight people in two trucks containing a large arsenal of weapons arrested by police in **Mexico** on suspicion of drug-trafficking. Laura Zúñiga said they were "going shopping" in Bolivia and Colombia. She was stripped of the Miss Hispanoamerica title that she won in October.

David Axelrod, Barack Obama's chief political adviser, defended his boss's decision to ask **Rick Warren** to deliver the opening prayer at the presidential inauguration on January 20th. The invitation to Mr Warren, a popular evangelical preacher from southern California and fervent opponent of gay marriage and abortion, has brought howls of protest from liberal groups.

The scandal rumbled on surrounding **Rod Blagojevich's** alleged attempt to sell Mr Obama's Senate seat. On December 23rd the president-elect released an internal report detailing his team's contact with the governor about the vacancy. Mr Blagojevich's lawyer said he may ask senior Obama advisers to testify to a state committee.

General Motors and **Chrysler** were granted up to $13.4 billion in federal loans in a bail-out made public by George Bush on December 19th. The White House announced the package after an effort to craft a rescue failed in Congress. The money will come (with conditions attached) from specific funds set aside for the car industry under the auspices of the Treasury's Troubled Asset Relief Programme, which was

originally set up in October to rescue banks. An additional $4 billion will be made available when Congress agrees to release more cash to the programme. This week **GMAC**, GM's car-financing arm, received a $6 billion bail-out. See article

Kuwaiti officials pulled the plug on a multibillion-dollar deal between a state-owned oil company and **Dow Chemical** just days before the agreement was due to be completed. The deal, announced a year ago amid high energy prices, would have seen Kuwait's Petrochemical Industries pay Dow $7.5 billion for a 50% stake in several chemical factories.

More details emerged about the potential losses of investors who entrusted their money to **Bernard Madoff**. Charged with perpetrating what may be the biggest financial scam in history, Mr Madoff used fund-managers as "feeders" to promote his investment scheme among the well-heeled in America and Europe. One such fund-manager, René-Thierry Magon de la Villehuchet, was found dead on December 23rd in an apparent suicide at his Manhattan office. See article

Economist.com **OPINION**

KAL's cartoon

Dec 30th 2008
From The Economist print edition

Illustration by KAL

Economist.com OPINION LEADERS

Israel's war in Gaza

Gaza: the rights and wrongs

Dec 30th 2008
From The Economist print edition

Israel was provoked, but as in Lebanon in 2006 it may find this war a hard one to end, or to justify

AP

THE scale and ferocity of the onslaught on Gaza have been shocking, and the television images of civilian suffering wrench the heart. But however deplorable, Israel's resort to military means to silence the rockets of Hamas should have been no surprise. This war has been a long time in the making.

Since Israel evacuated its soldiers and settlers from the Gaza Strip three years ago, Palestinian groups in Gaza have fired thousands of rudimentary rockets and mortar bombs across the border, killing very few people but disrupting normal life in a swathe of southern Israel. They fired almost 300 between December 19th, when Hamas ignored Egypt's entreaties and decided not to renew a six-month truce, and December 27th, when Israel started its bombing campaign (see article). To that extent, Israel is right to say it was provoked.

Of provocation and proportion

It is easy to point out from afar that barely a dozen Israelis had been killed by Palestinian rockets since the Gaza withdrawal. But few governments facing an election, as Israel's is, would let their towns be peppered every day with rockets, no matter how ineffective. As Barack Obama said on a visit to one Israeli town in July, "If somebody was sending rockets into my house where my two daughters sleep at night, I'm going to do everything in my power to stop that. And I would expect Israelis to do the same thing." In recent months, moreover, Hamas has smuggled far more lethal rockets into its Gaza enclave, some of which are now landing in Israeli cities that were previously out of range. On its border with Lebanon, Israel already faces one radical non-state actor, Hizbullah, that is formally dedicated to Israel's destruction and has a powerful arsenal of Iranian-supplied missiles at its disposal. The Israelis are understandably reluctant to let a similar danger grow in Gaza.

And yet Israel should not be surprised by the torrent of indignation it has aroused from around the world. This is not just because people seldom back the side with the F-16s. In general, a war must pass three tests to be justified. A country must first have exhausted all other means of defending itself. The attack should be proportionate to the objective. And it must stand a reasonable chance of achieving its goal. On all three of these tests Israel is on shakier ground than it cares to admit.

It is true that Israel has put up with the rockets from Gaza for a long time. But it may have been able to stop the rockets another way. For it is not quite true that Israel's only demand in respect of Gaza has

been for quiet along the border. Israel has also been trying to undermine Hamas by clamping an economic blockade on Gaza, while boosting the economy of the West Bank, where the Palestinians' more pliant secular movement, Fatah, holds sway. Even during the now-lapsed truce, Israel prevented all but a trickle of humanitarian aid from entering the strip. So although Israel was provoked, Hamas can claim that it was provoked too. If Israel had ended the blockade, Hamas may have renewed the truce. Indeed, on one reading of its motives, Hamas resumed fire to force Israel into a new truce on terms that would include opening the border.

On proportionality, the numbers speak for themselves—up to a point. After the first three days, some 350 Palestinians had been killed and only four Israelis. Neither common sense nor the laws of war require Israel to deviate from the usual rule, which is to kill as many enemies as you can and avoid casualties on your own side. Hamas was foolish to pick this uneven fight. But of the Palestinian dead, several score were civilians, and many others were policemen rather than combatants. Although both Western armies and their foes have killed far more civilians in Afghanistan and Iraq, Israel's interest should be to minimise the killing. The Palestinians it is bombing today will be its neighbours for ever.

This last point speaks to the test of effectiveness. Israel said at first that, much as it would like to topple Hamas, its present operation has the more limited aim of "changing reality" so that Hamas stops firing across the border. But as Israel learnt in Lebanon in 2006, this is far from easy. As with Hizbullah, Hamas's "resistance" to Israel has made it popular and delivered it to power. It is most unlikely to bend the knee. Like Hizbullah, it will probably prefer to keep on firing no matter how hard it is hit, daring Israel to send its ground forces into a messy street fight in Gaza's congested cities and refugee camps.

Now cease fire

Can Israel have forgotten the lesson of Lebanon so soon? Hardly. If anything, its campaign against Hamas now is intended to compensate for its relative failure against Hizbullah then. With Iran's nuclear threat on the horizon, and Iranian influence growing in both Lebanon and Gaza, Israel is keen to remind its enemies that the Jewish state can still fight and still win. Precisely for that reason, despite its talk of a long campaign, it may be more receptive than it is letting on to an immediate ceasefire. Its aircraft have already pummelled almost every target in Gaza. Further military gains will be harder. A truce now, if Hamas really did stop its fire, could be presented to voters as the successful rehabilitation of Israeli deterrence.

But a ceasefire needs a mediator. Mr Obama is not yet president, and George Bush has so far hung back, just as he did in 2006 while waiting for an Israeli knockout blow that did not come. This time, he and everyone else with influence should pile in at once. To bring Hamas on board, a ceasefire would need to include an end to Israel's blockade, but that would be a good thing in itself, relieving the suffering in Gaza and removing one of the reasons Hamas gives for fighting.

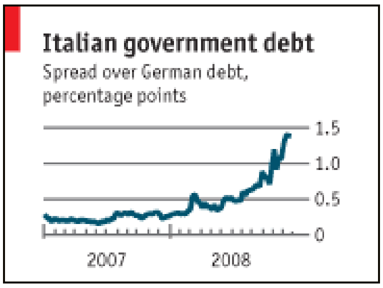
After that, Mr Obama will have to gather up what is left of diplomacy in the Middle East. It is not all hopeless. Until this week, Mahmoud Abbas, the Palestinian president, was talking to Israel about how to create a Palestinian state in the West Bank and Gaza. But Mr Abbas presides over the West Bank only, and little progress is possible so long as half of Palestine's people support an organisation that can still not bring itself to renounce armed struggle or recognise Israel's right to exist. Since Hamas is not going to disappear, some way must be found to change its mind. Bombs alone will never do that.

The euro at ten

Testing times

Dec 30th 2008
From The Economist print edition

Europe's currency has been more successful than sceptics expected, but it now faces its stiffest test



THE European Union is entitled to crow as it marks this week's tenth birthday of the euro. Remember the sceptics (especially in Britain and America) who confidently predicted that the single currency would never happen; or that, if it did, it would soon fall apart? And the traders who, in the euro's feeble early months, called it a "toilet currency"? Today the euro is well-established and strong—so much so that it is widely seen as a haven from the world's storms (see article).

Yet it would be wrong to infer from the birthday celebrations that the euro's troubles are over. In truth the single currency is heading for the trickiest moments of its short life. Eurosceptics were right that the real test of the single currency would come when Europe's economies fell into deep recession. As job losses mount and businesses go under, criticism of the euro and the European Central Bank can be expected to mount. And in the places that suffer the most—Italy and Greece, say—more voices may begin to question whether euro membership was such a wise idea.

In practice, the constituency for getting out is tiny, even in Italy. For most countries, the costs and practicalities of leaving the euro, which might entail default as well as devaluation, would clearly outweigh the pain of staying in. Yet the persistence of this pain reflects perhaps the biggest disappointment of the euro's first ten years. Enthusiasts hoped that the discipline of living within a single currency would unleash a wave of bold supply-side reforms that would transform productivity. In practice, far from promoting reforms, the euro has offered weak governments like Italy's protection against capital markets that might otherwise have punished their pusillanimity.

One bit of evidence supporting this paradoxical notion is that spreads on different government bonds inside the euro area have until recently been wafer-thin. The markets have tended to behave as if default risks were essentially similar across the currency zone—hence the talk of "convergence plays" on countries close to euro entry. This seems strange, not least because the euro's members are not liable for—and are explicitly banned from assuming—the debt of fellow members in default. And a by-product of the credit crunch seems to be an overdue market re-evaluation. Spreads on Italian and Greek debt over German bunds have widened sharply.

Dear Prudence, you are needed in Rome

With luck this should focus attention on governments with the worst records of reform, control of public finances and competitiveness. Indeed, the markets may now begin to act as a stronger catalyst for change than the single currency managed to be on its own. One euro-area finance minister already concedes glumly that what matters for him is "the markets, not Maastricht" (a reference to the criteria for entry into the euro).

The same should hold for would-be members on the fringes of the euro area, many of which have become keener to join since the financial crisis hit. Several countries are finding that they are too small to run an independent currency (although this does not seem to be true of Britain). Strictly speaking, the Maastricht criteria for the euro never made much economic sense. But the message behind them—that irreversible entry into a single currency necessitates reform to make economies more flexible and competitive—is sound. So long as it is heeded, the euro's next decade should be as successful as its first. If it is not, then expect the next ten years to be harder.

Fifty years of the Castro regime

Time for a (long overdue) change

Dec 30th 2008
From The Economist print edition

Both in Cuba and in American policy towards it

AP

AFTER a scintilla of regret over lost youth, to turn 50 should be to enter the prime of life, with a plenitude of projects and achievements. That is not the case for the Cuban revolution. Fifty years after Fidel Castro took power and started to impose communism in Cuba, the island is once again close to bankruptcy. “The accounts don’t square,” Raúl Castro, Fidel’s slightly younger brother who last year took over as president, declared this week. His message was that Cubans will have to work harder and longer. Perks such as free holidays will be scrapped or curtailed.

But the Castro brothers do have one cause for grim satisfaction. Later this month George Bush will become the tenth American president to leave office without having seen their overthrow. That is not for want of trying: although America has for decades traded with communist regimes in China and Vietnam, it persists with an economic embargo against Cuba, and under the Helms-Burton act even tries to hinder Cuba’s trade with other countries in defiance of international law.

The embargo dates from the time when the cold war was hot, and when the contest between the United States and its Latin American allies (sadly, often dictators) on the one hand, and Soviet communism and its Cuban beachhead on the other, was fought with guns. But Mr Castro stopped trying to overthrow Latin American governments more than two decades ago, shortly before his Soviet sponsor collapsed.

Nowadays the battle waged across the Florida Straits is largely a propaganda one for influence, especially in Latin America. In this, because of America’s embargo and its bullying, the Castros win far more than they deserve. After all, Cuba has precious little to boast about (see article). It is the only country in the Americas that locks citizens up for their beliefs. In a place that before 1959 boasted as many cattle as people, meat is such a scarce luxury that it is a crime to kill and eat a cow. Even the health and education systems, which once put those of many capitalist countries to shame, are now suffering decline. Then there is Fidel’s claim, earlier this year, that while Cuba has enshrined racial equality, America is irredeemably racist and would never accept a black man as president.

Obama’s example, and his opportunity

All this means that for the Castros, Barack Obama may turn into a far more formidable foe than his predecessors. The danger starts with his example: after all, a young, black, progressive politician has no chance of reaching the highest office in Cuba, although a majority of the island’s people are black. Mr Obama has already promised to reverse the restrictions on remittances and travel by Cuban-Americans

imposed by Mr Bush. Once he is in office, the new president should go further and urge Congress to lift the embargo altogether. It is wrongheaded and ineffective. If it went, Cubans would know they had nobody except their rulers to blame for their plight.

Unlike his brother, Raúl Castro shows every sign of recognising that Cuba’s economy needs Chinese-style market reforms (even if so far he has been slow to implement these). His realism this week doubtless stems from a realisation that low oil prices threaten the bounteous subsidies Cuba has been receiving from Venezuela’s Hugo Chávez (see article). If the embargo goes and economic change is under way, everything else in Cuba might be up for debate in a way it has not been for the past half century. That would be a revolution indeed.

The oceans

A sea of troubles

Dec 30th 2008
From The Economist print edition

Man is assaulting the oceans. They will smite him if he does not take care

Photoshot

NOT much is known about the sea, it is said; the surface of Mars is better mapped. But 2,000 holes have now been drilled in the bottom, 100,000 photographs have been taken, satellites monitor the five oceans and everywhere floats fitted with instruments rise and fall like perpetual yo-yos. Quite a lot is known, and very little is reassuring.

The worries begin at the surface, where an atmosphere newly laden with man-made carbon dioxide interacts with the briny. The sea has thus become more acidic, making life difficult, if not impossible, for marine organisms with calcium-carbonate shells or skeletons. These are not all as familiar as shrimps and lobsters, yet species like krill, tiny shrimp-like creatures, play a crucial part in the food chain: kill them off, and you may kill off their predators, whose predators may be the ones you enjoy served fried, grilled or with *sauce tartare*. Worse, you may destabilise an entire ecosystem.

That is also what acidification does to coral reefs, especially if they are already suffering from overfishing, overheating or pollution. Many are, and most are therefore gravely damaged. Some scientists believe that coral reefs, home to a quarter of all marine species, may virtually disappear within a few decades. That would be the end of the rainforests of the seas.

Carbon dioxide affects the sea in other ways, too, notably through global warming. The oceans expand as they warm up. They are also swollen by melting glaciers, ice caps and ice sheets: Greenland's ice is on track to melt completely, which will eventually raise the sea level by about seven metres (23ft). Even by the end of this century, the level may well have risen by 80cm, perhaps by much more. For the 630m people who live within 10km (six miles) of the sea, this is serious. Countries like Bangladesh, with 150m inhabitants, will be inundated. Even people living far inland may be affected by the warming: droughts in the western United States seem to be caused by changing surface temperatures in the tropical Pacific.

And then there are the red tides of algal blooms, the plagues of jellyfish and the dead zones where only simple organisms thrive. All of these are increasing in intensity, frequency and extent. All of these, too, seem to be associated with various stresses man inflicts on marine ecosystems: overfishing, global warming, fertilisers running from land into rivers and estuaries, often the whole lot in concatenation.

Some of the worrying changes may not be entirely the work of man. But one that surely has no other cause is the dearth of fish in the sea: most of the big ones have now been hauled out, and the rest will be gone within decades if the pillage continues at current rates. Indeed, over three-quarters of all marine fish species are below, or on the brink of falling below, sustainable levels. Another change is the

appearance of a mass of discarded plastic that swirls round in two clots in the Pacific, each as large as the United States. And the sea has plenty of other ills, as our special report this week explains.

Neptune would weep

Each of these changes is a catastrophe. Together they make for something much worse. Moreover, they are happening alarmingly fast—in decades, rather than the aeons needed for fish and plants to adapt. Many are irreversible. It will take tens of thousands of years for ocean chemistry to return to a condition similar to its pre-industrial state of 200 years ago, says Britain's most eminent body of scientists, the Royal Society. Many also fear that some changes are reaching thresholds after which further changes may accelerate uncontrollably. No one fully understands why the cod have not returned to the Grand Banks off Canada, even after 16 years of no fishing. No one quite knows why glaciers and ice shelves are melting so fast, or how a meltwater lake on the Greenland ice sheet covering six square kilometres could drain away in 24 hours, as it did in 2006. Such unexpected events make scientists nervous.

What can be done to put matters right? The sea, the last part of the world where man acts as a hunter-gatherer—as well as bather, miner, dumper and general polluter—needs management, just as the land does. Economics demands it as much as environmentalism, for the world squanders money through its poor stewardship of the oceans. Bad management and overfishing waste $50 billion a year, says the World Bank.

Economics also provides some answers. For a start, fishing subsidies should be abolished in an industry characterised by overcapacity and inefficiency. Then governments need to look at ways of giving those who exploit the resources of the sea an interest in their conservation. One such is the system of individual transferable fishing quotas that have been shown to work in Iceland, Norway, New Zealand and the western United States. Similar rights could be given to nitrogen polluters, as they have been to carbon polluters in Europe, and to seabed miners on continental shelves. A system of options and futures trading for fish could also help.

Quotas work in national waters. But the high seas, beyond the limits of national control, present bigger problems, and many fear that the tuna, sharks and other big fish that swim in the open ocean will be wiped out. Yet international fishing agreements covering parts of the North Atlantic show that management can work even in such common waters—though the Atlantic tuna commission also shows it can fail. And where fishing cannot be managed, it must simply be stopped. Nothing did so much good for fish stocks in northern Europe in the past 150 years as the second world war: by keeping trawlers in port, it let fisheries recover. A preferable solution today would be marine reserves, the more, and the bigger, the better.

In a world whose demand for protein grows daily, the need to conserve stocks is plain. The remedies are not hard to grasp. Politicians, however, are supine. Few of them, especially in Europe, are ready to stand up to potent lobbies, except in small countries where fishing is so important economically that the threat of mass extinctions cannot be ignored.

Now bind the restless wave

Yet the mass extinction, however remote, that should be concentrating minds is that of mankind. It is not wise to dismiss it where CO2 emissions, the other great curse of the oceans, are concerned. In the long run, the seas are the great sink for nearly all carbon. They may be able to help avert some global warming—for instance, by providing storage for CO2, by providing energy through wave or tidal power, or by somehow taking carbon out of the atmosphere faster than at present. They will, however, continue to change and be changed as long as man continues to put so much carbon into the atmosphere.

So far, the rising sea levels, dying corals and spreading algal blooms are only minor distractions for most people. A few more hurricanes like Katrina, a few dramatic floods in the coastal cities of the rich world, perhaps even the shutting down of a part of the world's great conveyor belt of ocean currents, especially if it were the one that warms up western Europe: any of these would catch the attention of policymakers. The trouble is that by then it may be too late.

Business

Managing the Facebookers

Dec 30th 2008
From The Economist print edition

The balance of power between old-school managers and young talent is changing—a bit

Illustration by David Simonds

THEIR defenders say they are motivated, versatile workers who are just what companies need in these difficult times. To others, however, the members of "Generation Y"—those born in the 1980s and 1990s, otherwise known as Millennials or the Net Generation—are spoiled, narcissistic layabouts who cannot spell and waste too much time on instant messaging and Facebook. Ah, reply the Net Geners, but all that messing around online proves that we are computer-literate multitaskers who are adept users of online collaborative tools, and natural team players. And, while you are on the subject of me, I need a month's sabbatical to recalibrate my personal goals.

This culture clash has been going on in many organisations and has lately seeped into management books. The Net Geners have grown up with computers; they are brimming with self-confidence; and they have been encouraged to challenge received wisdom, to find their own solutions to problems and to treat work as a route to personal fulfilment rather than merely a way of putting food on the table. Not all of this makes them easy to manage. Bosses complain that after a childhood of being coddled and praised, Net Geners demand far more frequent feedback and an over-precise set of objectives on the path to promotion (rather like the missions that must be completed in a video game). In a new report from PricewaterhouseCoopers, a consultancy, 61% of chief executives say they have trouble recruiting and integrating younger employees.

For the more curmudgeonly sort of older manager, the current recession is the joyful equivalent of hiding an alarm clock in a sleeping teenager's bedroom (see article). Once again, the touchy-feely management fads that always spring up in years of plenty (remember the guff about "the search for meaning" and "the importance of brand me") are being ditched in favour of more brutal command-and-control methods. Having grown up in good times, Net Geners have laboured under the illusion that the world owed them a living. But hopping between jobs to find one that meets your inner spiritual needs is not so easy when there are no jobs to hop to. And as for that sabbatical: here's a permanent one, sunshine.

Today's narcissistic layabout is tomorrow's talent

In fact, compromise will be necessary on both sides. Net Geners will certainly have to temper some of

their expectations and take the world as it is, not as they would like it to be. But their older bosses should also be prepared to make concessions. The economy will eventually recover—and demographic trends in most rich countries will make clever young workers even more valuable. Besides, many of the things that keep Net Geners happy—such as providing more coaching to young employees or embracing cheaper online ways to communicate—are worth doing anyway. But for the moment at least, the Facebookers are under the cosh.

On Sudan, Rwanda, socialism, Muslims, mobile phones, Ecuador, Bernard Madoff, Ginger Rogers

Dec 30th 2008
From The Economist print edition

Justice in Sudan

SIR – I read your article about the possibility of putting Sudan's president on trial at home instead of carting him off to The Hague ("A middle way for justice in Sudan", December 13th). The International Criminal Court's constitution does support justice being seen to be done nearer to the crime scene. However, although a hybrid court based in Sudan might sound like a good idea, the political environment there is hardly conducive to a free and fair hearing at which witnesses could expect proper protection.

On December 3rd, the ICC prosecutor told the United Nations Security Council that "genocide continues" and human-rights defenders are "arrested and tortured in Khartoum…on account of giving information to the ICC." Sudan has previously made a mockery of justice in its own special courts in Darfur, set up during an attempt to avert investigations by the ICC in 2005. As you explained, the indictment of President Omar al-Bashir could be deferred in order to consider an alternative court in Sudan, but the Security Council would be misusing the original intent of Article 16 of the ICC's governing statutes. Justice is better closer to home, but not if that means no justice at all.

James Smith
Chief executive
Aegis Trust
Newark, Nottinghamshire

Anatomy of a genocide

SIR – Lexington's advice to Barack Obama on preventing genocide stated that "Bill Clinton is often blamed for failing to stop the killing in Rwanda. He could have sent troops…" (December 13th). Why are the Rwandan massacres now being seen as an American failure? There were thousands of UN peacekeepers stationed in Rwanda before the violence started, including almost 500 Belgian paratroopers. After ten Belgians were killed the peacekeepers avoided confronting the Hutus, and soon fled the country. Rwanda was a failure for the UN, and for Belgium, which very much owes this part of Africa.

Bill Fridl
Mill Valley, California

A new deal?

SIR – I'd like to congratulate Charlemagne for appreciating the importance of the Party of European Socialists' manifesto for the 2009 European elections (December 13th). Our manifesto talks about the better management of globalisation. Social justice does not have to clash with economic competitiveness; in fact, one cannot be achieved without the other. Resisting globalisation is irrelevant; what matters is achieving the right combination of free market and fair rules for social justice.

In Denmark, as in other European welfare states, our grandparents secured a society in which the market economy is framed by rules offering protection and opportunities for all. We now want to do the same thing on a global level. That is what divides us from the conservatives in the European Parliament, who until recently seemed to think everything was rosy in the world economy. It isn't, not in the European Union and even less in Asia or Africa.

Poul Nyrup Rasmussen

President Party of European Socialists
Brussels

Muslims in Europe

SIR – You said that concentrations of Muslims are "altering the scene in some European cities", and "creating political opportunities for the far right" ("When town halls turn to Mecca", December 6th). Yet no one seems to be threatened by Chinatowns, which have grown steadily over the past few decades, or from the growing number of European Union nationals residing in countries other than their own. Why are Muslims different?

In America, similar views were expressed about Orientals and Jews, particularly in New York, 100 years ago. Perhaps the issue is not an over concentration of Muslims, but rather one of social exclusion: low income precludes residential choice, and social marginalisation leads to physical exclusion.

Andrew Ryder
Department of Geography
University of Portsmouth
Portsmouth, Hampshire

Don't dial and drive

SIR – You reported yet another study documenting the risks of using a mobile phone in a car ("Just shut up, will you", December 6th). What is notable about the growing mountain of evidence about this danger is that the insurance industry has not explicitly priced the risk in those areas where it is legal to call and drive. A variety of methods could be used to price this risk. Insurance coverage, for example, could be limited to the statutory minimum in cases where it was shown that the insured's mobile phone was in use at the time of an accident.

Alternatively, extended insurance that covered liabilities for accidents caused by using a mobile phone could be sold at higher premiums than polices that excluded such situations. Another approach is a statutory presumption of liability in "driving while phoning" cases.

Daniel Anderson
Portland, Oregon

History lesson

SIR – Every article about Ecuador in your publication is biased against the government of Rafael Correa ("Can pay, might not", November 29th). Throughout 2008 you predicted all sorts of catastrophes, ranging from capital flight to bigger fiscal deficits, none of which occurred. You could have mentioned, even once, the curb in corruption, the investment in new infrastructure, and Mr Correa's popularity among all income groups.

I can still recall a time when incumbent presidents were chased out of Ecuador like common criminals (only to return at a later date), strikes by teachers and government workers were a regular occurrence, an inflation rate of 25% was considered normal, and when the only hope for a million of my countrymen was to migrate.

Tito Alvarado
New York

A true artist

SIR – The title of your article on Bernard Madoff ("Con of the century", December 20th) suggests that he may have been the biggest scamster in the past 100 years. I have also heard people advocate that the Ponzi scheme be renamed in honour of Mr Madoff. They must be joking. Charles Ponzi was a truly

exceptional swindler who brought real innovation to the field of financial mischief. True, he was standing on the shoulders of such giants as banker Luigi Zarossi and syndicate organiser William "520%" Miller, but it was Ponzi alone who first introduced the true innovation of specifying a mechanism by which the pyramid scheme could be highly profitable, and thus elevated the procedure from low-level scam to cause financial mayhem.

Mr Madoff has certainly been keeping himself busy, and he deserves recognition for the scale of his fraud. But he is at best a gifted copycat, and it certainly is not worth amending the dictionary over him.

Andrea Matranga
Barcelona

Cheek to cheek

SIR – It is unfair of your book reviewer to say that Ginger Rogers was a "lesser artist" than Fred Astaire ("The man who wasn't there", December 13th). After all, as is often pointed out, she did everything Fred did, only backwards and in high heels.

Huw Sayer
Norwich

The Cuban revolution at 50

Heroic myth and prosaic failure

Dec 30th 2008
From The Economist print edition

All the Castro brothers have to celebrate this week is survival. But that in itself is a remarkable achievement

Reuters

IN THE early hours of January 1st 1959, as New Year parties were in full swing in an otherwise unnaturally quiet Havana, Fulgencio Batista stole away. He flew from Camp Columbia, the city's main military base, to exile in the Dominican Republic with an entourage of relatives and cronies. The dictator's flight meant that just 25 months after landing with 81 men, all but a dozen of whom were immediately killed or captured, Fidel Castro, a lawyer and former student leader, had led his guerrilla force to an improbable triumph against Batista's American-backed army. The next day Mr Castro spoke to a jubilant multitude, many dressed in the red and black colours of his July 26th Movement, in the main square of Santiago de Cuba, the island's second city. "The revolution begins now," he proclaimed, adding: "This time, luckily for Cuba, the revolution will truly come into being. It will not be like 1895, when the North Americans came and took over…For the first time the republic will really be entirely free."

As they descended from the mountains of the Sierra Maestra and entered Santiago, the columns of bearded rebels "were literally swept off their feet by the overjoyed people", as one of them, Carlos Franqui, recorded in his diary. "It was the hour of freedom after a long tyranny and a very tough fight." Such scenes were repeated across the island as Mr Castro embarked on a week-long triumphal march to Havana. They were echoed in the rest of Latin America, and beyond it. The dictatorship of Batista, a former army sergeant, had become notorious for its corrupt brutality. To many people, Mr Castro and his similarly handsome lieutenants, including Ernesto "Che" Guevara, an Argentine doctor, seemed to be romantic heroes. To others, they represented a renewal of socialism. Jean-Paul Sartre hailed Mr Castro's revolution as "the most original I have known".

Just as he had pledged, Mr Castro prevented the Americans from derailing his victory. But he did so at the cost of the freedom he had promised. Less than two years after his speech in Santiago—and before the United States imposed its economic embargo against the island—he had taken decisive steps to turn Cuba into the first, and still the only, communist country in the Americas.

Half a century on, the euphoria is long gone. Everyday life in Cuba is a dreary affair of queues and shortages, even if nobody starves and violent crime is rare. It is the only country in the Americas whose government denies its citizens freedom of expression and assembly. Cuba's jails contain 58 "prisoners of conscience" detained purely for their beliefs, according to Amnesty International, a human-rights group. But to the chagrin of the United States, and in defiance of its futile embargo, Mr Castro and Cuban

communism stubbornly cling on just 90 miles (145km) across the Florida Straits. He and it have outlasted the fall of the Berlin Wall and the collapse of his Soviet patron, and lived to see new allies emerge in Latin America and elsewhere.

Fidel himself has not appeared in public since he underwent abdominal surgery in July 2006. But his views, expressed in a column entitled "Reflections of the Commander" that is published every few days in the state newspapers, still dominate Cuba. His slightly younger brother Raúl, who succeeded him as president last February, may be more pragmatic and more open to capitalism (though not to liberal democracy). But Raúl's plans for economic reform, already cautious, have been further stalled by two devastating hurricanes that hit Cuba this year (see article). What will be officially celebrated in Havana this week is not the prospect of change. It is the stubborn survival of a revolution that has had profound consequences for the Americas—though rarely those that Mr Castro wanted.

Outwitting the CIA

On the face of things, Cuba was an unlikely candidate for communism. The largest island in the Caribbean, it was also the wealthiest, thanks to sugar. Its insular status had allowed Spain to hold on to its "ever-faithful isle" for seven decades after it lost its colonies on the American mainland. As Mr Castro noted in his victory speech, a long struggle for independence was hijacked when the United States intervened: the Spanish-American war of 1898 marked the end of Spain's presence in the Americas and turned Cuba into an American neo-colony. Some 60% of farmland and much of the sugar industry came to be owned by Americans. A third of the workforce, most of them black rural labourers, lived in severe poverty.

Nevertheless, in 1958 Cuba was among the five most developed countries in Latin America: life expectancy was close to that in the United States, and there were more doctors per head than in Britain or France. Although Havana had its darker side as a mafia bolthole, it was also a glittering cultural and commercial centre. It is the music from that era—the *son*, revived under the label of the Buena Vista Social Club—that has once again in recent years got the world singing and dancing, rather than the *nueva trova* ("new song") of the revolution. As Bertrand de la Grange and Maite Rico note in the latest issue of *Letras Libres*, a Mexican magazine, Havana boasted 135 cinemas in 1958—more than New York City. Today only a score remain open, although the city's population has doubled.

As Rafael Rojas, a Cuban historian who lives in exile in Mexico, has pointed out, most Cubans wanted and expected Mr Castro to restore the democratic constitution of 1940, repudiated by Batista's coup of 1952. That, after all, was what he had promised in the manifesto of the July 26th Movement, along with agrarian reform and the nationalisation of the American-owned public utilities (though not of the rest of the economy). But Mr Castro had other ideas. He was determined that his revolution should not suffer the fate of Jacobo Arbenz, a democratic social reformer in Guatemala, who was overthrown by an invasion misguidedly organised by the Eisenhower administration in 1954 in the name of anti-communism. Guevara had witnessed that event, and learned from it.

Guatemala was the first skirmish of the cold war in Latin America. But it was the Cuban revolution that turned the region into an important theatre in that ideological and military conflict. Installing moderate civilian politicians in government, Mr Castro named himself head of the armed forces. He quickly dismantled Batista's army. Some 550 people more or less closely linked to Batista's regime were executed after show trials, a bloodbath in which Guevara played a particularly prominent role. Mr Castro deepened his alliance with the Popular Socialist Party (as Cuba's old-established communist party called itself), and set up a parallel government at a newly created National Agrarian Reform Institute headed by Guevara. Within seven months of victory he had shelved his promise of elections. The July 26th Movement splintered, with many of its non-communists (including Mr Franqui) going into exile, jail or quiet opposition. In October 1959, just nine months after entering Havana, Mr Castro began the contacts with the Soviet Union that swiftly led to a full-scale economic and military alliance.

The CIA quickly concluded that Mr Castro was a closet communist and set out to overthrow him. But it was not until October 1960 that the United States began to impose the embargo. By the time a CIA-organised invasion of anti-Castro Cubans landed at the Bay of Pigs in April 1961, Mr Castro was ready for them, as Arbenz had not been in Guatemala. In 1962 the Soviet Union's decision to station missiles on Cuban soil brought the world the closest it has ever come to nuclear war. In return for their withdrawal, the Kennedy administration guaranteed that it would not again invade Cuba. Mr Castro had consolidated his victory. His triumph would prompt an exodus of hundreds of thousands of the more entrepreneurial Cubans. It thus had the unintended effect of turning Miami from a sleepy beach town into a throbbing

regional entrepôt.

Communism, Cuban-style

Precisely when Mr Castro became a communist is a matter of conjecture (though Raúl was a member of the Communist Youth and Guevara's experience in Guatemala strengthened his previous embrace of Marxism). The evidence suggests that Mr Castro imposed communism in Cuba of his own volition, not in reaction to American hostility. Certainly that hostility (which included endless CIA attempts to kill him) made his task easier. But it was not inevitable that the Cuban revolution should become a communist one. Mexico's revolution earlier in the 20th century installed a nationalist but non-communist regime. In Venezuela in 1959 a popular uprising against a dictatorship led to a democracy under Rómulo Betancourt, a social-democrat, though this would be corroded by the collapse in the price of oil in the 1980s and 1990s.

Even as Cuba turned into a Soviet client and a police state, Mr Castro's communism was always rather different from the drab variety imposed on eastern Europe by the Red Army after the second world war. That was partly because of its easier-going tropical ambience. It was more because Mr Castro presented himself as a nationalist first and a communist second: the "intellectual author" of the revolution, he always insisted, was not Marx but José Martí, a writer and political activist who perished fighting for independence in 1895. It was also because Mr Castro's rule relied on his own charisma, his oratorical machismo and the regular mobilisation of vast crowds, as much as on the Communist Party machine or on repression.

There were also genuine achievements. Mr Castro funnelled a chunk of Soviet subsidies into creating the best education and health systems in Latin America, as well as a fairly advanced biotechnology industry. What connects the Cuba of today with the ideals of the revolution is a commitment to "social justice, equity [and] national independence", argues Rafael Hernández, a Havana-based political scientist, in an article in *Foreign Policy en Español*.

But the impact of the Cuban example on Latin America was largely negative. It bewitched the region's left, detaching large parts of it from a path of social democracy for a generation. Cuba seemed to suggest that revolution was possible even in countries where the industrial proletariat was small. The countryside could be the focus of a peasant-based revolution. All that was missing was political will: "The duty of the revolutionary is to make the revolution," as Régis Debray, a disciple of Guevara, put it. To many of Latin America's growing number of middle-class students, appalled by the injustices of their societies, this simplistic slogan was a call to arms.

Guevara misreads history

Contrary to official myth, however, the Cuban revolution was not primarily a peasant rebellion. Mr Castro's guerrilla army relied for its survival and eventual success on a range of allies, including trade unions and other urban groups. Even more important, many of the governments in mainland Latin America commanded greater legitimacy, and their armies were more effective, than Batista's tinpot dictatorship.

The result was tragedy. Thousands of idealistic young Latin Americans, and many more innocent bystanders, were slaughtered in failed attempts to mimic Mr Castro's Rebel Army. (Guevara himself was defeated and shot in Bolivia in 1967.) Their efforts contributed greatly to the advent of a new generation of ruthless military dictatorships across the region in the 1970s. Only in Nicaragua would the Sandinista guerrillas be successful, against a dictatorship not unlike Batista's. But they were voted out in 1990 after a decade, undermined partly by the United States but also by their own arrogant mistakes.

By then Mr Castro's own survival was in question. The collapse of the Soviet Union deprived Cuba of net subsidies of around $2 billion a year, and caused its economy to shrink by a third. In response, Mr Castro reluctantly nodded in the direction of the market economy, allowing foreign investment (especially to develop a mass tourist industry) and family-run small businesses, and legalising remittances from Cubans abroad.

These measures allowed partial recovery. Then, unexpectedly, Mr Castro found new patrons in the form of a rising China and, especially, Venezuela's Hugo Chávez, an elected strongman armed with oil. Cuba

now receives Venezuelan largesse on a scale similar to that once supplied by the Soviet Union. Mr Chávez in turn benefits from the services of Cuban doctors and political and security advice (Cuba's famously effective intelligence service has created a new division whose sole purpose is to keep the Venezuelan president in power). In Mr Chávez's wake, a handful of other radical left-wingers who have achieved office through the ballot box, such as Bolivia's Evo Morales, also seek inspiration in Mr Castro. He is treated with respect by social democrats such as Brazil's Luiz Inácio Lula da Silva. In many cases that is because he offered them friendship in the past, when they were persecuted by dictatorships that had American backing.

Mr Castro's Cuba is a sad place. Although the population is now mainly black or mulatto and young, its rulers form a mainly white gerontocracy. The failure of collective farming means that it imports up to 80% of its food. The health and education systems struggle to maintain standards. Inequalities have risen. What matters for Cuban livelihoods is access to hard currency, through remittances or a widespread informal economy, rather than derisory wages or the threadbare official ration system. The best hope for the economy is the possibility that foreign investors may find commercial deepwater oilfields offshore when they drill this year.

For all its new-found friends, Cuba remains an exception in the Americas. But Mr Castro's lasting success has been as a masterful propagandist. Communism in Cuba has had a better press than anywhere else. He has exploited the cult of Che in particular. Guevara's myth—of the romantic rebel, not the murderous, militaristic Marxist of real life—burns as brightly as ever, recreated in hagiographical books and in a new Hollywood movie hitting American and British screens this month. In all this, Mr Castro has often been unwittingly helped by the United States, and rarely more than when George Bush set up a prison camp on Cuban soil at Guantánamo in defiance of American and international law. But Mr Castro is in the late evening of his life. And what happens after him remains unclear.

Cuba's economy

Ill winds

Dec 30th 2008 | HAVANA
From The Economist print edition

Hurricanes have added to the woes of the downturn

LESS than four months ago, Hurricanes Gustav and Ike slammed into western Cuba. They caused $10 billion-worth of damage: homes blown apart, power-lines flattened, the state-run food-supply network disrupted, farms laid waste.

But forces are easily mobilised in an authoritarian state. Military units cleared most of the debris in days and restored power in six weeks. Emergency brigades have repaired most houses. The food supply is almost back to normal, with new vegetable plots dug on unused land. The vital tobacco crop has quickly recovered. Across Pinar del Río, people are impressed. "Everyone got a roof, no matter if you are a member of the party or not," says Armando Martínez, who got his own new roof three days after Gustav hit Los Palacios.

Yet Cuba's long-term economic prospects remain grim. Officials now admit that the economy will grow only 4.3% for the year, about half the original forecast, because of hurricane damage, the rising cost of food imports and the collapse of the world market price for nickel, Cuba's main export. The only bright spot this year has been a record 2.4m tourists, up 9.3% over 2007.

The storms are a heavy blow for President Raúl Castro, who has made raising agricultural production a national priority. The rise in global commodity prices hit Cuba hard. The island imports 80% of its food, at a cost of $2.5 billion, and its huge trade deficit has soared this year by 70% to more than $11 billion, according to official figures out this week. That is only partly covered by the $7.8 billion Cuba receives for "export services"—doctors and sports trainers sent to Venezuela in exchange for oil.

Cuba is now anxious to rebuild bridges with all its Latin American neighbours. In November it was accepted into the Rio Group of nations. Brazil has agreed to help plant 40,000 hectares of soya. The presidents of Mexico and Chile are due to make official visits in the new year. Yet a plan to redistribute idle state land to more productive private peasant farmers (some 74,000 petitions have been received so far for a total of 700,000 hectares) remains snarled in bureaucracy.

Raúl Castro told Cuba's National Assembly this week that the state's accounts "simply don't square", and announced spending cuts. The assembly raised the retirement age by five years, to 60 for women and 65 for men—a sign that the economy cannot sustain the current pension system. State salaries will be reviewed, with more money for more productive workers. This would in theory end Cuba's creed of

egalitarian socialism, leading perhaps to broader economic reform. Cuba’s 2008 hurricane season may have hastened that day.

Re-training America's workers

The people puzzle

Dec 30th 2008 | DETROIT, MICHIGAN, AND WILMINGTON, OHIO
From The Economist print edition

Thousands of workers are losing their jobs. America now faces the hard task of getting them back to work

Getty Images

MOIRA MCKAMEY is one of many Americans with more free time than she would like. In November DHL, an express delivery company, said that it would close its American domestic operations at the end of January. Up to 10,000 jobs may be lost in Wilmington, Ohio, where DHL has its main hub for domestic traffic, and where it is the town's largest employer. Ms McKamey's job has already vanished. She is trying to keep busy but, on a break from painting her kitchen a cheerful yellow, she succumbs to tears. She worked at the hub for 20 years. Her husband is a small farmer; she supplied a steady income and the family's health insurance. She will be 52 this month. "I just never thought I would have to start all over at my age," she explains.

America's overall unemployment rate is 6.7%. But in some states sweeping lay-offs make the outlook much gloomier. Wilmington's predicament is among the worst in Ohio's recent history, while in Michigan at least 90 firms have announced firings in the past two months. More will surely come as the Big Three carmakers cut costs and possibly enter bankruptcy. Town and state officials across America now face a daunting prospect: helping millions of workers find new jobs.

The federal government has three main ways for leading workers back to employment, according to Gary Burtless of the Brookings Institution, a think-tank. The first is to help match workers with employers who seek their skills. The second is to provide unemployment insurance, which replaces lost wages for a period; but this money is provided by the states (see article) and some, including Michigan and Indiana, have already run out.

The third way to help workers is to train them for new jobs. Current programmes, though, are woefully inadequate. The Trade Adjustment Assistance act (TAA) serves those who have lost their jobs because of changing patterns of trade, giving eligible workers counselling, training, income support and other services. But TAA relieves only a fraction of the displaced. The more sweeping federal initiative is the Workforce Investment Act (WIA) of 1998, which sought to replace jumbled federal schemes with a streamlined system for workers and employers. States have some flexibility, but across the country "one-stop" career centres house a fairly standardised range of programmes, including help with job searches, career counselling, and, for a few, money for training, often at community colleges.

WIA is an improvement, but a flawed one. Its funding is volatile and declining, down 10% since 2002 to just $3.2 billion for the whole country in 2008. Only about 40% of WIA money is spent on training, according to the Government Accountability Office. Overall, America spends less on training than almost any other country in the OECD. George Bush made a few small changes to the system, including a pilot programme to create something like a voucher system for training; but an overhaul of WIA is overdue.

At present the system is straining to support cities such as Wilmington. It does not help that a GM plant has just closed nearby. Keith Hyde, who operates a local one-stop centre, is a veteran of gloom: over the past 15 years he has dealt with the closure of some 75 plants. But this, he says, "is easily the biggest concentration of displaced workers that I've seen." To deal with the firings, the federal Department of Labour has given Ohio an extra $3.9m for retraining. The Commerce Department will pay an "economic recovery co-ordinator" to devise a new plan for growth. DHL is paying for a "transition centre" at its air hub. And the state has deployed a "rapid response" system, whose first step is to explain to people what assistance is available.

The glut of fired workers, however, means fierce competition for jobs. The bulletin board at Wilmington's one-stop centre used to be covered with job postings; these days patches of cork lie bare. There is good demand for a handful of professions, including skilled labourers such as plumbers. Hospital workers are also sought after. Ms McKamey says she may become a medical assistant, but does not know which degree to pursue or what money she might be given for training. Meanwhile most local community colleges, explains Mr Hyde, have waiting lists for health-care courses. This may worsen if Ohio's budget for higher education, which has remained relatively healthy, has to be cut in 2009 as the state struggles to balance its books. College budgets are often obliged to shrink in downturns, just as demand rises.

If Wilmington is the centre of Ohio's struggles, Michigan is the centre of America's. The state's unemployment rate is 9.6% and will doubtless swell. To respond to a long slump, Michigan has tried to have "a coherent strategy even if the Feds don't", explains Andy Levin, deputy director at the state's Department of Labour and Economic Growth. The most notable new scheme is No Worker Left Behind, launched in 2007, which gives Michigan workers up to $10,000 for two years of training in a high-growth sector. Community colleges, meanwhile, are designing programmes around growing industries.

Despite such efforts, problems remain. Education does not guarantee employment, particularly in a state such as Michigan. "Families are splitting up," says Dorothy Kaltz, who runs a one-stop outside Detroit. One parent stays with the children and the house (which often can't be sold), while the other finds work elsewhere.

Such stories underline a fact that the states know well. Attempts to boost jobs must be matched by economic development—hence Michigan's stress on training in growing sectors. Lee Fisher, Ohio's lieutenant-governor, has fostered closer collaboration between higher education, training programmes and economic development. The federal Labour Department has grants to encourage such alliances. Most of the trendiest ideas have to do with the "green" economy, an area in which Barack Obama has pledged to spend some $150 billion. Michigan has a "green jobs initiative". In Wilmington, two Obama supporters were playing Frisbee after the election when they decided that their city should be a green hub. They are promoting their idea to local officials. The trouble is that every city and state wants to attract green firms these days.

The new president will inherit this mess. David Raizk, Wilmington's mayor, has a photograph taken of himself and Mr Obama during the campaign. "I like this picture because I'm talking and he's listening," the mayor jokes. Mr Obama's plans include creating jobs not only through green technology but also through infrastructure projects. Most of the talk, however, remains vague.

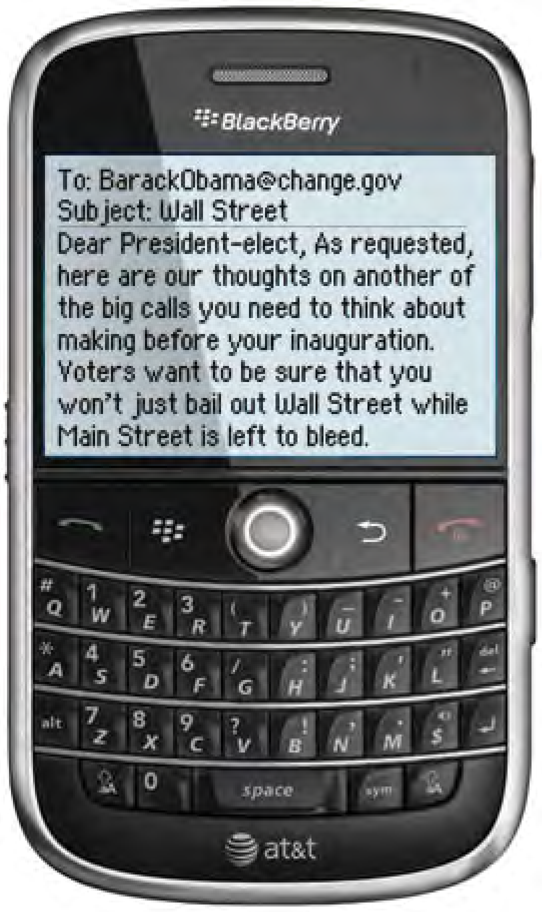
An energetic debate on displaced workers—on the role of the private sector, for example, or which training programmes give the best return to workers and taxpayers—has yet to emerge. In the meantime some 608,000 Americans, 74% more than last year, are not seeking work because they think no jobs are available. Their label is simply "discouraged".

Barack Obama's BlackBerry

Subject: Wall Street

Dec 30th 2008
From The Economist print edition

Another look inside the president-elect’s BlackBerry, soon to be confiscated on security grounds



“FIRST the good news. While the recession is getting worse, the financial crisis that started it has been contained—for now. The government has had to bail out only one big financial institution in the past six weeks.

The bad news is that the Bush administration and the Fed had nothing resembling a consistent strategy. They crushed Fannie’s and Freddie’s stock holders. They saved Citigroup’s. Ad-hockery is costly: it keeps private capital on the sidelines for fear of being wiped out in the next Sunday night rescue. And the government is now on the hook for perhaps trillions of dollars of guarantees and new capital, in return for which it got no extra power to protect the system and the taxpayer in the future.

What we need, and soon, is a “resolution regime”, governing how the government may take over any big financial institution and sell, nationalise or close it. We do have such a regime for deposit-taking banks, but it’s flawed in two respects. First, huge amounts of money are sloshing around *outside* the banks. Second, the biggest banks have long since become so thoroughly intertwined with the financial system that they cannot be neatly closed down as our laws once envisioned.

Designing such a regime is going to be a lot harder than just saying we need one. How are we going to decide which institutions are so important that they must come under it? And any institution we do agree to cover will be seen as “too big to fail”, obtaining an unfair advantage over its competitors in their cost of borrowing.

Whatever we come up with, voters have a right to be sure that we never get into this kind of mess again. The inability of the Republicans to forestall or fix the crisis was the main reason you won (after your charm and brains, naturally).

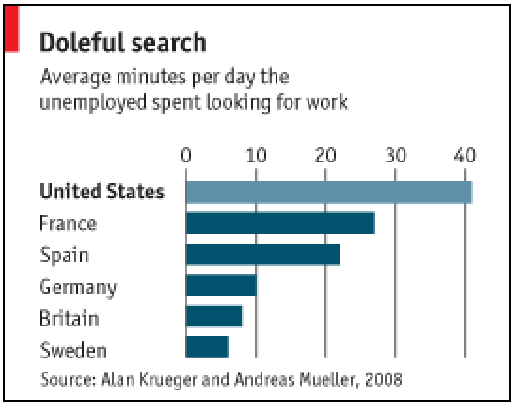
At a minimum, we will need much tighter federal oversight of the non-banks, and that is going to be hugely unpopular with Wall Street (though a bit of squealing from them is no bad thing for voters to hear). This ought to be part of a broader overhaul of a financial regulatory system that everyone knows is a mess: we have seven agencies overseeing banking, securities and futures and they still allowed the banks to behave like lunatics and failed to spot Bernie Madoff's Ponzi scheme. It took four years to pass the last overhaul. We don't have that much time: the crisis could claim its next victim at any moment. We have to figure out, right now, how we will respond."

Unemployment insurance

A safety net in need of repair

Dec 30th 2008 | WASHINGTON, DC
From The Economist print edition

The benefits awaiting America's unemployed are outdated and skimpy



COMPARED with the systems in other industrialised countries, the American unemployment-insurance (UI) scheme pays lower benefits for less time and to a smaller share of the unemployed. In expansions this encourages the jobless to return quickly to work—and unemployed Americans do indeed work harder at finding jobs than their European counterparts (see chart). But in recessions, when there is less work to return to, it causes hardship. Like America's training system, UI is ripe for attention from the incoming Obama administration.

Like much of the social safety net, the current UI system was a product of Franklin Roosevelt's New Deal. States were prodded to provide benefits in accordance with federal guidelines; in return the federal government paid their administrative costs. But the system has not kept up with changes in America's labour force.

States often require beneficiaries to have worked or earned an amount that disqualifies many part-time and low-wage workers. They also disqualify people seeking only part-time work—even though many people now work part-time for family reasons. Benefits typically last for only six months, more than enough time to find a new job in normal times but not in recessions. Extended benefits kick in automatically when unemployment reaches certain thresholds, but those thresholds are so high that they are almost never triggered.

Congress therefore has to pass special legislation to extend benefits, as it did twice last year, but political wrangling often delays such action. In the week that ended on December 20th, 586,000 workers filed a first claim for unemployment benefits, the largest number for 26 years. Yet such claimants are, in one sense, lucky: typically, 60% of unemployed people don't qualify for the benefits at all.

Unemployment insurance is one of the economy's most important automatic stabilisers, helping to maintain household purchasing power when the economy weakens. But that role is impaired by the short duration of benefits and their skimpy level. At just under $300, the average weekly benefit is less than half the average private-sector wage. Mississippi's maximum benefit of $230 is not much more than the federal poverty threshold of $200 for an individual. Benefits are low, in part, because they are financed by payroll taxes that states levy on their employers. States don't like to raise such taxes, even when times are good. But that means they lack the funds to pay benefits when times are bad, forcing them to raise other taxes or borrow from the federal government, as some 30 states are now considering.

One of the best features of America's system is "experience rating": employers that frequently lay workers off must pay higher payroll taxes, thereby discouraging such lay-offs. But according to Alan Krueger of Princeton, many states have neutered that feature by charging most employers the lowest tax rate.

Several moves are afoot to mend the flaws in the UI system. Under a bill put forward by Jim McDermott, a congressman from Seattle, the government would offer cash incentives to states to expand eligibility to part-time workers and make the benefit formula more generous. A second bill would significantly expand eligibility for the 46-year old Trade Adjustment Assistance programme, for example by including service-sector workers and providing more generous benefits. Both measures passed the House of Representatives but stalled in the Senate. As a senator, Barack Obama backed both. As president, he might make them reality.

The Christmas bird count

Hunting without guns

Dec 30th 2008 | LITTLE ROCK
From The Economist print edition

A splendid tradition in its 109th year

DECORATING the tree, sending out new year wishes, counting birds? Thousands of Americans have adopted the annual holiday tradition of the Christmas bird count, now in its 109th year and run by the Audubon Society. From Canada to South America and points in between experienced birdwatchers and novices, armed with binoculars, checklists and bird guides, have been journeying to forests and fields.

In the 19th century it was common for hunters to bag a Christmas bird for dinner and enjoy a competitive “side hunt” for sport at the same time. In 1900 Frank Chapman, an ornithologist, suggested a count instead of a kill at Christmas time. Only 27 observers in 25 places in the United States and Canada took part in that first hunt. In the 2007-08 three-week count, 59,918 people took part and 57,704,250 birds were tallied.

This band of citizen scientists has contributed invaluable data to researchers. Dan Scheiman, conservation director for Audubon Arkansas, says that birds seldom disappear overnight. Instead, populations increase and decrease over time. The Christmas survey gives some idea of the size of the changes.

The bobwhite, for example, common in the south-eastern and eastern United States, is decreasing. Arkansas has seen a 70% decline in its numbers since 1967. The loggerhead shrike, a small grey, black and white bird, has declined by 92% since then. Mr Scheiman blames the loss of open spaces and grasslands for the drop.

Birds are also moving. The greater roadrunner has been shifting eastward into Arkansas from the west, and the white wing dove has been moving into Arkansas from the south-west. When birds move, the insects or plants they eat often do not, possibly upsetting ecosystems unchanged for thousands of years.

Last year’s count introduced a few new species to North America, including the exotic purple swamphen, an escapee now breeding in the Florida Everglades. In Canada wild turkeys have increased dramatically: nearly 10,000 now, compared with less than 200 15 years ago. And during this year’s count, which ends on January 5th, Arkansas birdwatchers have been looking most carefully for the elusive ivory-billed woodpecker. This was spotted in 2004 to much fanfare; but no one has seen it since.

Charleston

A turn in the South

Dec 30th 2008 | CHARLESTON
From The Economist print edition

A blue-collar military town transforms itself into a white-collar security cluster

UNTIL the government closed it in 1996, the navy base in Charleston was the region’s economic engine. The navy was Charleston’s largest employer, directly providing work for more than 22,000 people. But after a decade of decay, some 340 acres (140 hectares) of the site is now part of a 3,000-acre redevelopment plan in North Charleston called Noisette, billed as “a city within a city” and costing $3 billion over 20 years. The redeveloped navy shipyard has already attracted a number of green businesses. Clemson University’s research campus has also moved there.

Partly as a result, the region’s economy is healthier and more diversified than it was a decade ago. Job growth for the Charleston region was 16.5% between 2000 and 2007; nationally, it was less than half that. Charleston’s growth in GDP, wages and bank deposits all outpace national averages. Household income has increased by 30% since 2000. In July *Inc*, a magazine for entrepreneurs, described it as among the best cities for doing business.

The armed forces still have an impact, generating $3.5 billion a year. Charleston is still home to an air force base, a training school for nuclear-power engineers, a naval weapons station, a Coast Guard training centre and Project SeaHawk, a model multi-agency anti-terrorism programme. Convoys of “mine-resistant ambush-protected vehicles” (MRAPs) drive along conspicuously in South Carolina’s picturesque Lowcountry. They are heading for Charleston’s Space and Naval Warfare Systems Centre Atlantic (SPAWAR), where they are outfitted with communications, command and control equipment and prepared for shipment to Iraq and Afghanistan. SPAWAR is the navy’s engineering and research arm.

The heavily armoured vehicles offer better protection against improvised explosive devices than Humvees do. Since their use has increased, troop deaths from roadside devices are said to have fallen by about 90%. MRAPS are mostly built by manufacturers based in Charleston, such as Force Protection, with much of the technology developed by local companies like SCRA and Science Applications International Corporation. Some 80% of SPAWAR’s projects involve partnerships with private business, according to Philipp Charles, the centre’s technical director.

All these defence and security companies are attracting highly skilled workers. In September the Milken Institute declared the Charleston metro area, which includes North Charleston and Summerville, to be among the leading ten cities for job creation. Between 2000 and 2007 the number of people working in IT grew by 52% in the Charleston region; nationally, it went up by only 9%. The numbers of scientists,

architects and engineers grew by 52%, while dropping 3% nationally. South Carolina has the second-highest concentration of industrial engineers in the country, after Michigan. Manufacturing is growing in Charleston, as factories expand and new ones open, even as it seems to be dying a public death in the rest of the country.

As a result, the area's population has grown 10% to 603,000 since 2000 and is forecast to grow to 624,000 by 2010. And to top it all, *National Geographic* recently ranked Charleston as being among the 50 best places to live.

Not all is rosy. Charleston's port has been struggling to compete with neighbouring Savannah. On December 18th Maersk, the world's largest ocean carrier, announced it would leave Charleston by 2011, citing high costs and union intransigence. This is a big blow: Maersk accounts for 25% of Charleston's container volume. But for the most part Charleston is weathering the economic downturn well. Defence contractors are not relying solely on America for revenue. Force Protection, for instance, is building MRAPs for America's allies. A hybrid carmaker plans to open there. The economy has slowed since the summer, according to Karen Kuchenbecker, of the Charleston Regional Development Alliance. But, she says, "We are holding our head above water."

Re-naming America

Obamaville

Dec 30th 2008 | ST LOUIS
From The Economist print edition

The next president is already making his mark on America's cities

DELMAR BOULEVARD is an arterial road running through some of the poorest and richest, and most racially divided, neighbourhoods of St Louis, Missouri. Some city aldermen are now trying to rename the street after Barack Obama before he takes office.

St Louis is not alone in its efforts to stick Mr Obama's name on public property. Opa-locka, in Miami-Dade County, Florida (one of the most dangerous cities in America), plans to rename one of its avenues after the next president. A Long Island elementary school in Hampstead, New York, recently changed its name from Ludlum to Barack Obama after students organised a campaign. Another Long Island school thought of doing the same until parents intervened. One in Portland, Oregon, is still considering it.

Rural, mostly black Perry County, Alabama, has already gone one better, declaring the second Monday of November as Barack Obama Day. Government offices will be closed and the county's employees will have a paid day off. Not to be outdone, some activists in Topeka, Kansas, are promoting a national Obama holiday. Fuelled by a deluge of Obama products from commemorative coins to hand towels, from bobbing-head dolls to glossy books, the Obama industry is one of the economy's bright spots.

Under federal law it is illegal to depict a living person on a stamp or on the currency, and it used to be considered inappropriate, to say the least, to name public places after living politicians. Recently, though, a flood of post offices, parks, schools, water treatment plants and other public works, including the federal courthouse in St Louis, have been named after one congressman or another. The publicly financed glorification of serving leaders, once practised only by the likes of Saddam Hussein and the Turkmenbashi, is now being extended to America's president.

The effort in St Louis to rename Delmar Boulevard is not certain to succeed. Some wiser heads recall that a decade ago the city renamed part of an interstate highway after Mark McGwire, a baseball player for the St Louis Cardinals whose record-breaking home runs were later tainted by accusations of steroid use. Glorifying a president may be tempting fate again.

Lexington

Huntington's clash

Dec 30th 2008
From The Economist print edition

One of America's great public intellectuals died on Christmas Eve

Illustration by KAL

IN THE early 1990s America's opinion-makers competed to outdo each other in triumphalism. Economists argued that the "Washington consensus" would spread peace and prosperity around the world. Politicians debated whether the "peace dividend" should be used to create universal health care or be allowed to fructify in the pockets of the people or quite possibly both. Francis Fukuyama took the optimists' garland by declaring, in 1992, "the end of history" and the universal triumph of Western liberalism.

Samuel Huntington thought that all this was bunk. In "The Clash of Civilisations?" he presented a darker view. He argued that the old ideological divisions of the Cold War would be replaced not by universal harmony but by even older cultural divisions. The world was deeply divided between different civilisations. And far from being drawn together by globalisation, these different cultures were being drawn into conflict.

Huntington added another barb to his argument by suggesting that Western civilisation was in relative decline: the American power-mongers who thought that they were the architects of a new world order were more likely to find themselves the victims of cultural forces that they did not even know existed. The future was being forged in the mosques of Tehran and the planning commissions of Beijing rather than the cafés of Harvard Square. His original 1993 article, in *Foreign Affairs*, was translated into 26 languages and expanded into a best-selling book.

The "Clash of Civilisations?" was only the most famous of numerous exercises in goring sacred cows. In "The Third Wave: Democratisation in the Late 20th Century" (1991), he argued that democratisation might have more to do with the Second Vatican Council, which had unleashed a wave of democratisation across the Catholic world, than with the spread of free-markets. In "Who Are We? The Challenges to America's National Identity" (2004) he challenged the reigning orthodoxy of multiculturalism, pointing out that American civilisation is the product of Anglo-Saxon Protestant culture, and warning that the huge influx of Latinos threatened to unmoor it from its roots.

Huntington's last book earned him a reputation as a crusty old reactionary. He certainly became a hate figure to the left and a hero to many conservatives. But his politics were altogether more complicated. He was a lifelong Democrat, a representative of that dying breed, the hard-headed cold war liberal. He wrote speeches for Adlai Stevenson and acted as a foreign-policy adviser to Hubert Humphrey. He briefly

served in the Johnson and Carter administrations (he was a particularly close friend of Zbigniew Brzezinski, one of Barack Obama's early backers). He was a fierce opponent of the neoconservatives who thought they could transplant American values into Mesopotamia.

But he believed that it was vital to mix liberal idealism with a pessimism rooted in a conservative reading of history. He rejected the economic reductionism that drove the Washington consensus, and insisted instead on seeing people as products of culture rather than as profit-and-loss calculating machines. He also rejected the beguiling idea (some say it has beguiled *The Economist*) that all good things tend to go together—that free markets go hand in hand with pluralism, democracy and the American way. He felt that America was a living paradox: America's culture turned it into a universal civilisation but those values were in fact rooted in a unique set of circumstances.

For all his long career and prodigious energy—Huntington was on the Harvard faculty for 54 years and wrote 17 books on a wide variety of subjects—he will always be associated with the phrase "the clash of civilisations". How well does his argument hold up 15 years after he first penned it?

Both well and badly. Huntington came as close as anybody to predicting September 11th and the "war on terror" with his strictures about Islam's "bloody borders". He also came as close as anybody to predicting America's agonies in Iraq by pointing out that democracy is the product of very specific cultural processes. His argument that modernisation does not necessarily entail Westernisation also looks prescient: why should the Chinese embrace the American economic model when it seems to produce such economic havoc? And why should authoritarian regimes in the Middle East embrace democratisation when it might mean handing power to Islamists? The master emerges better than his pupil, Mr Fukuyama.

Right up to a point

But the corrective itself has needed correcting. Huntington defended his taste for the broadest of brushes on the grounds that, without one, you are left with what William James called "a bloomin' buzzin' confusion". But his pronouncements often distorted reality rather than imposed order on it. He skated over the fact that many of the nastiest clashes take place within civilisations rather than between them: more Muslims die at the hands of their fellow Muslims than die at the hands of "Jews or Crusaders"; and Europeans fought the 20th century's bloodiest conflicts among themselves. He also downplayed the extent to which the American model attracts people the world over: the Chinese business elite are much more interested in Silicon Valley than in their Confucian past. His arguments can produce policies that are just as naive as those he excoriated: policies that drive Muslims together into a single angry mass, rather than prising them apart, for example, and policies that encourage Western self-doubt just as surely as do the hand-wringing of the multiculturalists.

Huntington was a remarkable figure for all sorts of reasons, but most importantly because he was willing to question the excessive liberal optimism of the 1990s. Perhaps the best tribute that can be paid to him now is to question the excessive Huntingtonian pessimism that is now threatening to replace it.

Venezuela

Socialism with cheap oil

Dec 30th 2008 | CARACAS
From The Economist print edition

Hugo Chávez embarks on a race against the impending impact of world recession

Reuters

DURING a turbulent decade in power, Venezuela's president, Hugo Chávez, has been greatly helped by his own remarkable ability to inspire loyalty among ordinary Venezuelans on the one hand, and the sharp rise in the price of oil, the country's only significant export, on the other. But the world price of oil has fallen from a peak of $147 last July to $40. And popular discontent with Mr Chávez's corrupt and autocratic regime is mounting. So 2009 looks like being a difficult year for Mr Chávez and his "Bolivarian revolution".

Re-elected as president in December 2006, Mr Chávez is not due to leave office until January 2013. But he is rushing to hold a referendum on a constitutional amendment that would remove the limit on further presidential terms. This measure has already been defeated once, albeit narrowly, in a referendum on a wider bundle of constitutional proposals in December 2007. As five years of oil-induced economic boom turn to imminent bust, Mr Chávez needs to move fast, lest the mood of the electorate should turn decisively against him.

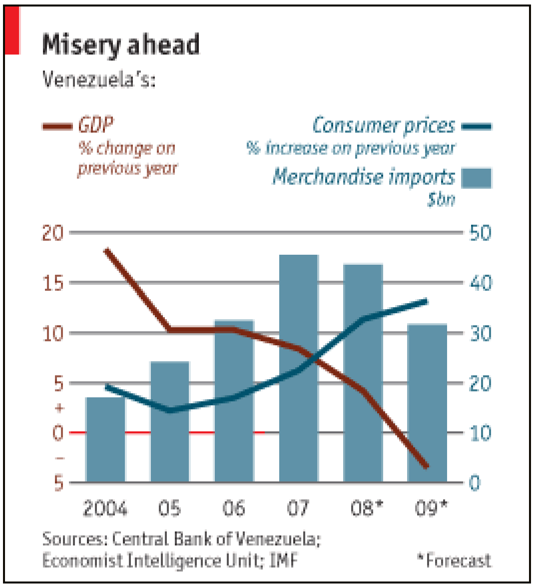
The president's overwhelming parliamentary majority, together with his grip on the supreme court and the electoral authority, mean that the referendum may be held as early as mid-February. But he faces an uphill fight to get the amendment approved. He is still popular, with an approval rating of between 55% and 60% in most polls. His candidates won around 53% of the vote in state and municipal elections in November. But those same polls show that public opinion is strongly against removing presidential term limits.

A gathering economic storm means that the president cannot count on remaining popular. Mr Chávez insists that his "21st-century socialism" means Venezuela will avoid the recession. "Not the slightest gust of wind has touched us, while Europe [and America] are being battered by storms," he said this week. But independent analysts are much less sanguine.

Despite his talk of "endogenous development" and economic diversification, Venezuela is more dependent on oil now than it was when Mr Chávez took power. Oil brought in 92% of export revenues in the first nine months of 2008, compared with 64% in 1998. The 2009 budget, which foresees public spending of $78 billion, assumes an average oil price of $60 a barrel (and economic growth of 6%). Venezuelan crude, much of which is heavy (meaning viscous), currently sells for around half that figure. The budget also assumes that Venezuela produces 3.4m barrels of oil per day. Independent sources, including OPEC, say output is about 1m barrels less.

Although the budget involves a nominal increase in spending of 23%, in real terms it involves a contraction. In the past few years, the government has spent heavily off-budget, on infrastructure and other projects. It will find that harder this year. When pressed to explain how it intends to pay this year's bills if the oil price remains low, officials say that they can draw on up to $100 billion in international reserves and money in various discretionary funds. The Central Bank's reserves are around $38 billion; the government has siphoned tens of billions more into an unaudited National Development Fund, and other off-budget places. But quite how much these funds contain is unclear.

Many private-sector economists believe that, if the oil price levels out at somewhere close to the budgeted figure, the government will be able to muddle through until 2010. But the economy is already cooling rapidly. Even optimists predict growth of no more than 3%, higher inflation and a fiscal deficit of at least 3%. Some expect zero growth. Partly because Mr Chávez has harassed the private sector, imports have increased much faster than local production (see chart). That trend now looks unsustainable.



Not for the first time in Venezuela, a sudden fall in the oil price will reveal the economy's structural flaws. Despite the government's insistence that it will maintain social spending, the poor will once again bear the brunt of the downturn. According to José Manuel González, president of the main employers' organisation, Fedecamaras, 75% of food is now imported. Unemployment, which stands at 6% by the official count, is being held down by government grants to educational "missions" and unprofitable co-operatives. Under Mr Chávez, too, the number of public employees has roughly doubled, to well over 2m, without taking into account over 1m public-sector pensioners. Just paying the wage bill, let alone subsidies and food imports, may soon become problematic.

Then there are compensation payments, totalling several billion dollars, that Mr Chávez is committed to paying out after a nationalisation spree he embarked on in 2007. This has included state takeovers of the cement industry, a large Spanish-owned bank, a big steelworks and parts of the heavy-oil processing facilities formerly owned by Exxon Mobil and ConocoPhillips. The next target is a gold mine.

Keen to avoid measures that look like "neoliberal" austerity, the government is doing its best to disguise and delay the necessary fiscal and monetary steps. But it has doubled an airport departure tax and the fees charged by public notaries. More tax rises (including in VAT, now at only 9%) seem bound to follow. Foreign currency allowances for travellers are being cut, while more importers are finding that they have to resort to the parallel exchange market to obtain their dollars.

Devaluation would help pay the bills, at the cost of a further spike in inflation, but the government is likely to stick to the longstanding (and overvalued) official rate of 2.15 bolívares to the dollar as long as possible. The state oil company is reported to be surreptitiously selling some of its dollars on the illegal parallel market (at a rate of around five bolívares).

Since much oil is presold, the recent plunge in its price will start to be felt in earnest only this month. That is when Venezuela will start to feel a cold draught from the slowdown in the world economy. But with so much hanging on the referendum result, the president will do his utmost to cushion the immediate impact. That will almost certainly include raiding the reserves to help balance the books.

Exactly 20 years ago, faced with a similar drop in oil prices, Venezuela's then-president, Jaime Lusinchi, postponed austerity measures in a successful bid to get his party's candidate, Carlos Andrés Pérez, elected president. Mr Pérez found himself obliged to impose drastic spending and subsidy cuts, which led to riots and looting in which hundreds died. Ironically, Mr Chávez traces the start of his "revolution" to that moment.

Unlike 1989, the government this time has a healthy level of reserves. Its off-budget funds may give it scope to run a counter-cyclical fiscal policy for a while. The government has set up a special public-relations committee, in a bid to avoid the presentational fiasco that contributed to Mr Pérez's undoing. All this may or may not be enough for Mr Chávez to win the referendum, and perhaps for the government to get through 2009 without a radical change of course. But if he genuinely believes, as he declared this

week, that his “socialist project will emerge strengthened” from the world recession, he will soon enough be disabused.

The Caribbean

Hanging them high

Dec 30th 2008 | PORT OF SPAIN
From The Economist print edition

Don't bother to reform, just execute

ON DECEMBER 19th, as the small island state of St Kitts and Nevis prepared to celebrate Christmas and the annual Carnival, bells rang out from the prison in the heart of the capital, Basseterre. Charles Laplace was hanged that morning for stabbing his wife nearly five years earlier. His appeal was dismissed in October because it was filed after the legal deadline.

It was the first execution in the English-speaking Caribbean for eight years. The day before, the United Nations General Assembly had voted—by 106 nations to 46—for a worldwide moratorium on the death penalty. Against the trend of world opinion, all 12 countries of the English-speaking Caribbean retain the death penalty on their statute books. They make up a substantial chunk of the execution lobby.

Hangings are rare. That is because most of the 12 retain the Privy Council in London as their court of final appeal. (Barbados and Guyana have switched to the new Caribbean Court of Justice, based in Port of Spain.) It has ruled that the gap between sentence and execution cannot be longer than five years—and successive appeals usually take longer.

But the political pressure for the death penalty is strong. That is partly because murders are common. With just under 50,000 people, St Kitts-Nevis suffered 23 murders in 2008. This is one of the highest rates, per head, in the world. With an election due in 2009, last August the prime minister, Denzil Douglas, took direct responsibility for national security. He notes that children as young as six ape the ways of well-armed youth gangs. But if he hoped the hanging would have an immediate deterrent effect, he was disappointed. The next day three gun attacks left victims badly wounded, and a youth was shot while attacking a policeman with a hammer.

To casual visitors, the islands still seem deceptively peaceful. An American travel advisory for St Kitts-Nevis gives warning only of petty crime. But on neighbouring Antigua, which suffers a similar crime wave, two newlywed British tourists were killed in July.

In Jamaica, gang violence has been endemic for several decades. Jamaica has seen no executions since 1988. But the country's parliament recently voted to keep the death penalty. There is talk of legislation to overturn the Privy Council's rulings, and of using methods of execution other than hanging.

None of this is likely to have a deterrent effect. Cynics note that the police have shot almost 500 Jamaicans in the past two years. But a murderer's chances of suffering arrest, trial and the death sentence are minimal. Some of the politicians with most experience of fighting crime, such as Jamaica's security minister and one of his predecessors, voted against the death penalty; they stress police and judicial reform. But that takes longer and wins fewer headlines.

Bangladesh's election

The tenacity of hope

Dec 30th 2008 | DHAKA
From The Economist print edition

Against all the evidence of past experience, Bangladesh's voters enjoy a moment of optimism after a pretty clean election and a decisive result

AFP

IT WENT better than anyone dared hope. On December 29th Bangladesh held its first general election for seven years. It was well-attended, with a 70% turnout, well-organised, largely peaceful and, despite some vote-buying and other malpractice, far cleaner than its predecessors. It produced an astonishing, massive landslide for the alliance led by the Awami League of Sheikh Hasina Wajed (pictured above), prime minister from 1996-2001, and daughter of the country's murdered independence leader.

Yet, as always, the voting was the easy part. After two years under an army-backed "caretaker" government, the return to democratic rule is unlikely to be smooth. The army staged an unannounced coup in January 2007 amid street violence ahead of a scheduled election that the Bangladesh Nationalist Party (BNP), in power from 1991-96 and 2001-06, was rigging. Both the BNP, led by Khaleda Zia, widow of an assassinated former general and president, and the Awami League had run corrupt, inept governments.

The two parties had debased the country's politics into a Punch-and-Judy show of non-co-operation and vindictive retaliation. The army hoped to purge them, jailing both Sheikh Hasina and Mrs Zia for a year on corruption charges, along with some of their senior henchmen, and trying in vain to send the two "begums" into exile. But the parties and their leaders proved to have stubborn roots, and the army had to relent. The begums were freed and Bangladeshi politics has resumed its five-yearly anti-incumbency cycle.

The election, however, was something of a triumph. The voters' list had been shorn of 11m "ghosts", and 81m genuine voters registered, with their photographs. The campaign saw far less violence than in the past. The spread of mobile phones, many with cameras, produced an army of unofficial campaign monitors, alert to any violation. On polling day the mood in Dhaka was calm, proud and even jolly.

Countless lamp-posts, telegraph poles and trees had been draped with lines of string festooned with small, tattered black-and-white election flyers (an unintended if predictable consequence of a ban on colour posters and wall-pasting). At polling stations long segregated queues, with many women in their finest saris, waited patiently to vote. Ballot boxes were translucent (in 2001, 111 polling stations recorded more votes than voters). Foreign observers were impressed.

For one-third of voters this was their first election. A further 23% had the vote just once before, in 2001. The BNP-led coalition that won then proved unusually venal and incompetent even by local standards.

Voters punished it severely. The BNP’s share of the 300 seats contested has fallen from 193 to around 27. It seems also to have been hurt by its alliance with Islamist parties, the largest of which, Jamaat-e-Islami, was reduced from 17 seats to just two. This will be welcomed by those worried about the spread of radical Islam in Bangladesh. Just before the election, seven members of a banned extremist group were arrested, and a large cache of explosives seized. A vast majority of Bangladesh’s more than 150m people are Muslims. But the BNP’s calls to voters to shun the more secular League in order to protect Islam seem to have backfired.

The League now finds itself with a huge parliamentary majority—some 230 seats on its own (up from 62) with a further 30-odd won by its allies. The BNP, more of whose leaders were targets of the interim government’s anti-corruption drive, and which had said only cheating could make it lose the election, is likely to cry foul. There is a risk of a traditional response: mass protests; general strikes; and a boycott of parliament. That is why some neutrals hoped for a close result.

So huge is the BNP’s defeat, however, that its protests will hardly be credible. A bigger danger may be that the scale of the victory goes to Sheikh Hasina’s head and makes her high-handed. During the campaign, she promised a new bipartisan approach, offering the opposition the chairs of some parliamentary committees. She might now be tempted to renege. Her long, bitter feud with Mrs Zia has not abated. The army forced the begums to meet at an Army Day reception in November. They managed to exchange courtesies, but not to make eye contact.

Nevertheless, optimists hope that the relative peace of the two-year interregnum, the chastening experience of detention and the enthusiasm the election itself generated might make it hard for the parties to return to their bad old winner-take-all ways. And they know that the army will be looking over their shoulders.

Asked what they wanted from a new government, most voters—of whom some 45% live on less than a dollar a day—had a simple answer: cheaper food. In this one respect, the government may be in luck. A good rice harvest and lower international prices for fuel and other commodities have already dented inflation. But in the current global slump, Bangladesh’s economic growth is also expected to fall, from about 6.2% in 2008.

On past form, Bangladesh’s voters might expect their new government to devote itself not to their welfare but to persecuting its rivals and looting the public purse. During the campaign, Sheikh Hasina pushed the fashionable slogan of “change”. The result is the clearest possible endorsement of that call. One 80-year-old, voting for the first time, saw the result as Bangladesh’s brightest day since the assassination of Sheikh Hasina’s father in 1975. With such hopes invested in her, she is almost bound to disappoint.

India, Pakistan and Kashmir

A good vote in the angry valley

Dec 30th 2008 | SRINAGAR
From The Economist print edition

But India shouldn't believe that many Kashmiris were won over to its rule

Reuters

Tough love for Omar Abdullah

AS AN illustration of the strength of India's democracy, it was well-timed. On December 28th Jammu & Kashmir, India's only Muslim-majority state, declared the results of a surprisingly smooth election. Unlike previous polls in the state, which is dominated by India's portion of the divided Kashmir region (Pakistan controls a smaller part of Kashmir, and both countries claim all of it), the election was not rigged. Turnout was high, over 60%. Amid tight security—which included the detention of many unhappy separatists, who denounced the poll—it was unusually peaceful. Omar Abdullah, leader of the National Conference (NC) party, which maintained its position as Kashmir's biggest, winning 28 out of 87 seats, said he had not once worn a bullet-proof vest on the campaign trail. In campaigning during the state's previous election in 2002 he wore this garment almost every day.

On December 29th Mr Abdullah and Sonia Gandhi, leader of the Congress party, which won 17 seats in the polls, announced that they would form a government together. Congress had previously ruled the state in alliance with the People's Democratic Party or PDP, a more nationalistic Kashmiri party, which won 21 seats. That government collapsed in June after its decision to cede land in Kashmir to Hindu pilgrims sparked mass protests against Indian rule.

Two months of uproar ensued, including the biggest anti-Indian demonstrations in Kashmir since the early 1990s, when a Pakistan-sponsored insurgency began—a revolt that has so far resulted in over 40,000 lives being lost. As is their habit, Indian troops crushed the protests brutally, killing some 40 people. Anticipating trouble, India's election commission spread the election over six weeks, with seven meticulously controlled stages of voting. Even so, everyone was surprised by Kashmiris' support for it. In Srinagar, the centre of the recent protests, turnout was over 20%, compared with 5% in 2002.

At a time of rising tensions between India and Pakistan, which on December 26th sent troops to reinforce its eastern border, the poll is a fillip for India's rulers. Mrs Gandhi, the leader of Congress, which dominates India's coalition government, called it a "victory for democracy". It will be less celebrated in Pakistan, now seething with anti-Indian feeling.

Under its former leader, Pervez Musharraf, and its current one, Asif Ali Zardari, Pakistan has in fact come close to abandoning its historic claim to Kashmir. Facing a spreading Taliban insurgency in north-western Pakistan, both presidents recognised the importance of making peace with India—and the impossibility of forcing India to make a serious concession on Kashmir. This twin recognition has underpinned a promising four-year diplomatic effort to normalise relations between two countries that have fought four wars, including three over Kashmir.

Pakistan has cut back its support for Pakistani Islamist militants fighting in Kashmir. This caused the insurgency to diminish: it claimed some 540 lives in 2008 compared with 4,500 in 2001. But the current stand-off between India and Pakistan, generated by a three-day terrorist onslaught on Mumbai in November by those same Pakistani militants, is threatening to undo much of this good work.

Like the seasoned fencers that they are, both sides are now mixing provocative stuff with more measured statements. Though it demands that Pakistan crack down on its erstwhile militant proxies, India has said it does not plan to attack its neighbour. But after two Indian jets trespassed into Pakistani airspace on December 13th, Pakistan's civilian rulers, at the prompting of the army and an indignant media, declared themselves ready for war. In a more conciliatory tone on December 27th—the first anniversary of the assassination of his wife, Benazir Bhutto—Mr Zardari vowed to fight the "cancer" of terrorism. Yet, despite strong American urging, he does not seem ready—or able—to go after the militants with force.

The situation is certainly delicate. India, which is preparing for a general election, due by May, has been severely provoked. But, at least for now, with neither side likely to gain anything useful from fighting, and a shared realisation that their disputes must be worked out patiently, war seems unlikely.

The success of the election in Jammu & Kashmir may owe something to that same wearisome truth. Many Kashmiris, as the recent protests served to re-emphasise, are deeply unhappy to be in India. Given an opportunity to determine their future—as India's first prime minister, Jawaharlal Nehru, falsely promised that they would be—they would probably vote to secede. But for now, disaffected with violence and the impoverishment it has brought them, Kashmiris at least want better and more representative government.

In the village of Khanmoh, on the outskirts of Srinagar, in the last days of the election campaign, a gang of youths gathered to shout at an Indian military convoy driving by. Within a minute, daring jeers turned into an angry chant of "Azadi!" (freedom). Kicking up clods of frozen mud, the youths pelted the convoy, shattering windscreens. At the edge of this mob, Abid Hussain was a typical representative of it. He is 21, a university graduate and unemployed. He said: "We do not support violence, but so long as we are denied our freedom, it will continue."

Turkmenistan

Shadow movement

Dec 30th 2008 | ALMATY
From The Economist print edition

Glimmers of light in a murky state

ALTHOUGH Turkmenistan's eccentric and autocratic president-for-life, Saparmurat Niyazov, was short in physical stature, he has continued to cast a long shadow since his death two years ago. Only very gradually has his successor, Gurbanguly Berdymukhammedov, begun to make moves to release the country from its self-imposed, Soviet-style isolation.

A new constitution was adopted in September which increased parliament's powers and raised the number of seats from 65 to 125. This was followed by a parliamentary election on December 14th. Both were hailed as steps towards democracy. But all 288 candidates stressed their support of the president: they were either members of the ruling Democratic Party of Turkmenistan, launched by Niyazov, or were state-approved independents. The opposition is largely in exile. Voter turnout reportedly reached 94%, though little information was made available about the candidates or what they stood for.

The quickest and easiest way for Mr Berdymukhammedov to put a stamp on his own rule has been to start dismantling his predecessor's bizarre personality cult. The huge rotating gold statue of Niyazov may continue to tower over Ashgabat, the capital, but the months of the year were returned to their original names last spring. Niyazov had renamed them in 2002: April was called Gurbansoltan, in honour of his mother, and September was Ruhnama, the title of his spiritual book, which was mandatory reading in school.

During his two years in office, the new president has authorised the opening of internet cafés and lifted the ban on the opera and the circus. He has increased the number of years children attend school and restored pensions withdrawn under Niyazov to more than 100,000 people. On December 15th, parliament decided to revise the national anthem by removing all references to the late president. Though Human Rights Watch still calls Turkmenistan "one of the most repressive and authoritarian states in the world", there have been some real improvements, of a kind.

There has also been movement in foreign affairs, though the changes may not be as substantial as they seem at first glance. Niyazov insulated himself from the outside world but Mr Berdymukhammedov has visited a number of countries, including China, Russia and the United States, all of which were eager to welcome him, given the size of Turkmenistan's gas reserves. He has also sought to improve relations with Azerbaijan and Uzbekistan, which were tense under his predecessor.

Europeans were drawn even more to the possibilities of Turkmenistan as a business partner after the Turkmen government hired a British firm, Gaffney, Cline & Associates, to survey some of the country's gasfields that had never been analysed by Western experts before. The company announced in October that the South Yolotan-Osman field in south-eastern Turkmenistan is roughly the fourth- or fifth-largest field in the world.

Mr Berdymukhammedov has signalled interest in the idea of supplying gas to various destinations, including Europe, but has made no major new commitments. Nor has the country yet given foreign investors (with their expertise and their money) access to its natural resources. For now, everybody still waits for the president to break into his full stride.

Horse racing in China

Go for big chests and slim waists

Dec 30th 2008 | WUHAN
From The Economist print edition

Not exactly gambling, but the lucky could still win something

OPPORTUNITIES are sparse for China's small-time speculators. So it was with a certain ebullience that 7,000 residents of Wuhan recently gathered at the Orient Lucky City racecourse to indulge in what the central leadership terms a "social evil". They were the first people in mainland China to be given official approval to win money from horse races since the Communist Party outlawed gambling in 1949.

To the disappointment of hardened punters, depravity was lacking. No gambling, as such, was allowed. Racegoers could pick a horse for nothing in two of the five races and, if it won, were awarded 20 lottery scratch cards, giving them the chance to win 30,000 yuan ($4,400). One lucky winner scooped 4,000 yuan; most won less than a taxi fare home. The big hitters who had flown in from Sichuan could be heard cursing the impotence of their bulging wallets.

Tentative as it was, the race meeting in November was a significant move towards opening the country's vast betting market. In the same month the World Poker Tour introduced Chinese poker, or *Tuo La Ji*, to television viewers. As the economy falters, the incentives for the government to trade ideology for profit are compelling. A Chinese researcher has claimed that a nationwide betting industry for horse racing would create 3m jobs and 40 billion yuan in tax revenues. And the government might also rescue some of the estimated $700 billion lost to illegal betting each year.

But the Communist Party's conservative factions will need persuading. They regard horse-race betting as immoral for the masses, a challenge to social stability and a throwback to colonialism: British merchants plying the Yangzi River set up racing in Wuhan in the early 1900s.

Wuhan's new racing crowd has been converted. One spectator, a teacher-turned-entrepreneur, trotted out a bit of wisdom from Deng Xiaoping to dismiss the morality debate: "No matter if it is a white cat or a black cat; as long as it can catch mice, it is a good cat." Others enthusiastically followed the advice of the course commentator who compared picking a winning horse to finding a pretty woman ("Look for a big chest and slim waist").

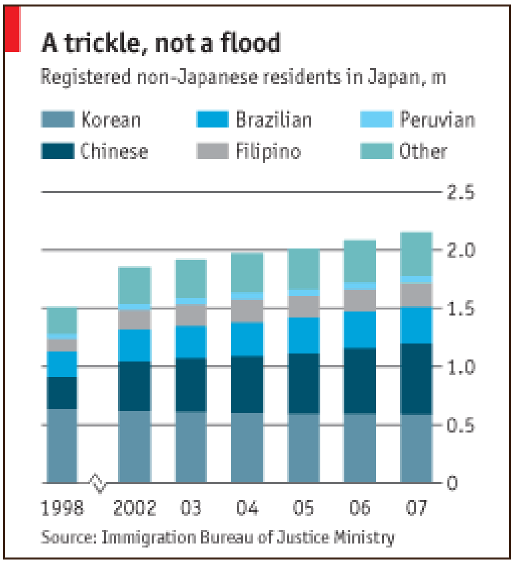
The racecourse operator, Orient Lucky Horse Group, owned by Jacky Wu, a Hong Kong businessman, enjoys rare central-government backing—the vice-minister of sports opened the meeting—but is terrified by government fickleness. With a stud farm and a training facility under construction, Mr Wu has a lot to lose (as do the 93 students who are studying for a degree in horse racing at a local university). The group has seen racing operations shut down in the past as unauthorised betting went too far, notably in Beijing in 2005. Caution is now its prime policy.

Japanese immigration

Don't bring me your huddled masses

Dec 30th 2008 | NISHI-KOIZUMI
From The Economist print edition

Not what the conservatives want, yet some people are beginning to imagine a more mixed Japan



INFLAMMATORY remarks by Japan's speak-from-the-hip conservative politicians—among them the prime minister for now, Taro Aso—embroil them in endless controversy with neighbours over Japan's wartime past. In their defence, conservatives often say that what really concerns them is the future, in which they want Japan to punch its weight in the world. The question is, what weight? Japan's population, currently 127m and falling, is set to shrink by a third over the next 50 years. The working-age population is falling at a faster rate; the huge baby-boom generation born between 1947 and 1949, the shock troops of Japan's economic miracle, are now retiring, leaving fewer workers to support a growing proportion of elderly.

Conservatives have few answers. They call for incentives to keep women at home to breed (though poor career prospects for mothers are a big factor behind a precipitous fall in the fertility rate). Robot workers offer more hope to some: two-fifths of all the world's industrial robots are in Japan. They have the advantage of being neither foreign nor delinquent, words which in Japan trip together off the tongue. Yet robots can do only so much.

The answer is self-evident, but conservatives rarely debate it. Their notion of a strong Japan—ie, a populous, vibrant country—is feasible only with many more immigrants than the current 2.2m, or just 1.7% of the population. (This includes 400,000 second- or third-generation Koreans who have chosen to keep Korean nationality but who are Japanese in nearly every respect.) The number of immigrants has grown by half in the past decade, but the proportion is still well below any other big rich country. Further, immigrants enter only as short-term residents; permanent residency is normally granted only after ten years of best behaviour.

Politicians and the media invoke the certainty of social instability should the number of foreigners rise. The justice ministry attributes high rates of serious crime to foreigners—though, when pressed, admits these are committed by illegal immigrants rather than legal ones. Newspaper editorials often give warning of the difficulties of assimilation.

For the first time, however, an 80-strong group of economically liberal politicians in the ruling Liberal Democratic Party (LDP), led by Hidenao Nakagawa, a former LDP secretary-general, is promoting a bold immigration policy. It calls for the number of foreigners to rise to 10m over the next half century, and for many of these immigrants to become naturalised Japanese. It wants the number of foreign students in Japan, currently 132,000, to rise to 1m. And it calls for whole families to be admitted, not just foreign workers as often at present.

The plan's author, Hidenori Sakanaka, a former Tokyo immigration chief and now head of the Japan Immigration Policy Institute, envisages a multicultural Japan in which, he says, reverence for the imperial family is an option rather than a defining trait of Japaneseness. It's a fine proposal, but not very likely to fly in the current political climate, especially at a time when the opposition Democratic Party of Japan is fretting about the impact of immigration on pay for Japanese workers.

Still, a declining workforce is changing once-fixed views. Small- and medium-sized companies were the first, during the late 1980s, to call for more immigrant workers as a way to remain competitive. The country recruited Brazilians and Peruvians of Japanese descent to work in the industrial clusters around

Tokyo and Nagoya in Aichi prefecture that serve the country's giant carmakers and electronics firms.

Now the Keidanren, the association of big, dyed-in-the-wool manufacturers, is shifting its position. This autumn it called for a more active immigration policy to bring in highly skilled foreign workers, whose present number the Keidanren puts at a mere 180,000.

It also called for a revamp of Japan's three-year training programmes, a big source of foreign workers. These are supposed to involve a year's training and then two years' on-the-job experience. In practice, they provide cheap labour (mainly from Asia) for the garment industry, farming and fish-processing. Workers, says Tsuyoshi Hirabayashi of the justice ministry, are often abused by employers demanding long hours and paying much less than the legal minimum wage. Meanwhile, foreigners coming to the end of the scheme often leave the country to return illegally. Mr Sakanaka calls for the training programme to be abolished.

Japanese conservatives, and many others, point to the South Americans of Japanese descent as a failed experiment. Even with Japanese names, they say, the incomers still stand out. Yet in Nishi-Koizumi in Gunma prefecture, just north of Tokyo, a town dominated by a Sanyo electronics plant, the picture is different. In the family-owned factory of Kazuya Sakamoto, which for decades has supplied parts to Sanyo, three-fifths of the 300 workers are foreigners, mainly Japanese-Brazilians.

The town is certainly down at heel by comparison with the nearby capital, though it has a mildly exotic flavour in other respects, including five tattoo parlours on the main street. Yet without foreigners, says Mr Sakamoto, it is very hard to imagine there would be a town—or his family company—at all. His father was the first to recruit foreigners, and the town changed the hospitals and the local schools to suit: there are special classes in Portuguese to bring overseas children up to speed in some subjects. The result, says Mr Sakamoto, is that foreign workers send word home about the opportunities, and other good workers follow. In future, he thinks, the country should be much more welcoming to young people from around Asia.

What this new impetus for change will achieve in the near term is another matter. Not only is policymaking absent and reformism on the defensive but the global slump is hitting Japanese industry particularly hard, and foreign workers foremost. In November industrial output fell by a record 8.1% compared to the previous month, and unemployment rose to 3.9%.

A rotten time for rethinking

Mr Sakamoto says he has stopped recruiting for now, but plans no redundancies. Yet sackings of Brazilians have begun at the Toyota and Sony plants in Aichi prefecture. Some workers, says a Brazilian pastor there, have been thrown out of their flats too, with no money to return home. In Hamamatsu city, south of Tokyo, demand for foreign workers is shrinking so fast that a Brazilian school which had 180 students in 2002 closed down at the end of December; its numbers had fallen to 30. Much is made of Japan's lifetime-employment system, but that hardly applies to foreigners.

Israel and Gaza

Pummelling the Palestinians

Dec 30th 2008 | JERUSALEM
From The Economist print edition

If the Israeli onslaught on the Islamists of Hamas silences them for a while, it could alter the odds in Israel's coming general election

Reuters

"BY THE time we're finished," Israel's deputy chief of staff, General Dan Harel, told a group of mayors from towns close to the Gaza Strip on December 29th, "there won't be a Hamas building left standing in Gaza." They could well believe him. In four days of bombing that began with a massive, sudden raid on December 27th, Israeli jets, unmanned drones and helicopters killed some 350 Palestinians, smashing offices belonging to Hamas, the Islamist movement that has run the strip since booting out its secular Fatah rivals a year-and-a-half ago, as well as police stations, ministry buildings, Gaza's Islamic university, refugee camps and workshops. In a raid by 40 aircraft on December 28th, dozens of arms-smuggling tunnels under the border with Egypt were destroyed.

The onslaught is meant to stop Hamas firing rockets at Israel. But the general predicted that "the worst is still ahead". UN agencies said between 50 and 90 of 300-plus killed in the first three days were non-combatants. If tanks and artillery enter the fray, civilian deaths may mount faster. In the past year, before the latest onslaught, 420-plus Gazans had been killed in Israeli raids, at least a fifth civilian, according to B'Tselem, an Israeli human-rights lobby.

In the first four days of "Operation Cast Lead", four Israelis (including one soldier) were killed by Palestinian rockets, bringing the total number of Israeli civilian deaths at Hamas's hands in 2008 to five. Three of the victims were struck down in the towns of Netivot, 12km (seven miles) east of Gaza, Ashkelon, 11km up the coast, and Ashdod, a port, 30km north of the strip. Villages even farther away were hit.

Israel's defence minister, Ehud Barak, said the operation had been planned for months, long before a shaky six-month ceasefire with Hamas ran out on December 19th. Intelligence sources identified scores of Hamas targets in the densely populated territory, where 1.5m Palestinians, more than half of them refugees or their descendants, have been hemmed into the sandy coastal strip some 40km long.

Stopping or drastically reducing Palestinian rocket fire will be the political touchstone of this military campaign, as it was in the month-long war between Israel and Hizbullah, Lebanon's well-armed Shia movement, in the summer of 2006. At that time, Ehud Olmert, Israel's prime minister, who is to step down after an election on February 10th, had hoped that air raids would silence the missile launchers.

Three weeks later, with a third of Israel virtually at a standstill because Hizbullah's missiles are far more lethal than Hamas's mostly home-made projectiles, a massive Israeli ground force was finally sent in but got bogged down against Hizbullah's dogged fighters. An eventual ceasefire left Hizbullah claiming victory and Israel's generals and politicians locked in recrimination.

"After Lebanon," says Tzachi Hanegbi, chairman of the foreign affairs and defence committee of Israel's parliament, "everyone understands that rocket fire can't be silenced by air power alone." But everyone understands, too, that Hamas, completely outgunned from the air, seeks to lure Israeli ground troops into the heavily built-up Gaza Strip to engage them with street-fighting guerrillas. Hamas, too, has been preparing long and hard for this showdown.

As in all its wars, Israel feels it is fighting against the clock. Its diplomats say they sensed an initial surge of approval, albeit muted, from many world capitals and even among moderate Arab governments. George Bush's administration has been plainly in Israel's corner. But the high death toll and the prospect of a lot more killing if the operation is "broadened and deepened", to use Mr Barak's words, could spur European governments to pay more heed to protests mounting in the Arab world.

Israel says it intends its armed incursions, if they come, to be brief and not to drag it into a renewed occupation of the strip. If the Hamas regime collapses under the onslaught, so much the better, though there is no certainty that the Fatah-led Palestinian Authority, forcibly ousted from Gaza by Hamas in June 2007 but still in charge in the Palestinians' bigger West Bank, would be able to return to power.

If Hamas does stop firing rockets, Mr Barak's standing could rise fast. Mr Olmert is formally still in charge until a new government is formed after the election. But the Gaza operation is widely seen as Mr Barak's. He and his Labour party have been trailing well behind the foreign minister, Tzipi Livni, and her Kadima party and Binyamin Netanyahu and his hard-right opposition Likud party. In desperation, before the onslaught, Mr Barak had mounted a campaign on billboards and on the internet, declaring himself "not nice", "not cuddly" and "not trendy". If Hamas's rockets are silenced, albeit for a while, Israel's voters may warm to those harsh qualities.

Gaza and Hamas

What can we do?

Dec 30th 2008 | CAIRO
From The Economist print edition

The dilemma that springs from a defiant refusal to compromise

Reuters

Hamas's hour of resistance

IN THEIR oath of loyalty, members of Hamas declare that death in the cause of God is their supreme desire. But as the bombs of Israel's Operation Cast Lead, aimed at smashing Hamas, kill and maim growing numbers of Palestinians, many of them civilians unaffiliated to the Islamist group, its glorification of martyrdom is ringing sadly hollow.

All faith-inspired groups struggle to square the purity of dogmatism with dirtier realities. In the two decades since its founding as a local branch of Egypt's Muslim Brotherhood, Hamas has mostly shied away from choosing between the two. For years it could pose comfortably in opposition to Fatah, the secular party that long dominated Palestinian politics, and accuse it of abandoning national ideals in the false hope of securing peace with Israel.

Hamas, by contrast, stuck to denying that it would ever recognise the Jewish state, give up the Palestinians' title to all their ancestral land or relinquish their right to return from exile. Still, quietly and pragmatically, it did engage in indirect dealings with the enemy, agreeing to the odd ceasefire or prisoner exchange. For the longer term, its leaders hinted they would accept an extended truce with an Israel confined to its pre-1967 borders, an offer that maintained ideological purity but safely precluded any taint of welcome from Israel's security-minded governments.

Hamas won legislative elections in 2006 not because most Palestinians shared its dogma but largely because after a decade of peace-processing and five years of bloody *intifada* (uprising), they despaired of Fatah's corruption and its hopes of coaxing Israel to an honourable settlement. (Hamas's suicide bombings did much to kill the hope on both sides.) But then, following Hamas's takeover of Gaza from Fatah in 2007, the challenge of ruling the territory under an Israeli siege, strengthened by diplomatic isolation and the ire of Fatah's supporters, confronted the Islamists with a starker choice between ideology and pragmatism.

Should the group accede to international demands that it accept Israel, renounce violence, adhere to the Palestinians' previous peace deals, and so win a reprieve for Gaza's hapless people? Or should Hamas hope that Palestinian suffering would prick the world's conscience, rally a billion-plus fellow Muslims to their side, and so eventually force Israel to back down and, perhaps better yet, inspire Palestinians in the West Bank to overthrow Fatah? Hamas's hardliners demanded rocket strikes to torment Israel, kept up a barrage of accusations against Fatah, and engineered last winter's dramatic breach of Gaza's border with Egypt to advertise Gaza's misery. Cooler heads counselled calm, sought to mend fences with Fatah, and said that Hamas should work with countries such as Egypt, not try to embarrass their leaders.

Last summer, the pragmatists seemed to make headway. Exhausting negotiations via Egypt finally fixed a six-month truce with Israel, after months of tit-for-tat attacks amid an ever-tightening Israeli blockade. Equally tricky Egyptian-sponsored talks had inched towards a power-sharing deal between Hamas and Fatah, too, presaging an end to two years of vicious partisanship. But all this began to unravel in the autumn. Increasing Israeli trade restrictions and Israel's refusal to free any of its thousands of Hamas prisoners dimmed the distant light in Gaza's tunnel. Meanwhile Fatah, in its stronghold on the West Bank, clamped down on Hamas, with dozens of arrests and the dismissal of some 400 Hamas-affiliated teachers. The last straw came in November when Israel killed six gunmen it said were digging tunnels to launch a raid on Israel, spurring Hamas to respond with a barrage of rockets.

By the end of the official truce on December 19th, Hamas's harder-liners again held sway. The ceasefire with Israel, they could argue, had brought no gains for Gaza. Fatah, they said, had sold out to its Western donors and sought nothing but Hamas's destruction. Egypt, the supposed mediator, was in fact complicit in Israel's siege. Better, it was argued, for Hamas to brazen things out. Moreover, it had proved its ability to rule Gaza, enforcing better law and order (though with an iron fist) than Fatah ever had. America's elections augured potentially positive changes in the superpower's strategy, while allies such as Iran, Syria and Hizbullah were busy raising the propaganda ante over Gaza's suffering, pressing pro-Western Arabs to soften their stand against the Islamists. The launching of rockets resumed, triggering Israel's long-planned, devastating response.

So far, the bloodshed in Gaza has not much changed the equation. Hamas has lost massively in terms of physical assets but gained hugely in sympathy. Yet the group has been brutally shoved towards a long-postponed decision. The surge of impotent rage in Gaza over Israel's violence will momentarily boost Hamas's standing, but Gazans may then ask what brought them to this awful pass. The Islamists may win some meagre concessions when the dust settles and the blood is washed away: perhaps a loosening of Israel's siege, an opening of Egypt's border, a torrent of aid from appalled fellow Muslims, and maybe a modicum of international recognition. But unless the current furious street protests spark a region-wide revolution that scares the wits out of Israel and its friends, Hamas will still face the same painful old choice of how to come to terms with an immensely more powerful and equally determined enemy.

The laws of war

Proportional to what?

Dec 30th 2008
From The Economist print edition

The rights and wrongs of killing civilians

IN THE arithmetic of death, the latest fight between Israel and Hamas has been an unequal contest: more than 350 Palestinians killed in Israeli air strikes in the first four days, many of them civilians, against four Israelis killed by Hamas's rockets. But does such one-sided bloodshed make Israel guilty of using "disproportionate force", as argued by, among others, Amnesty International and Nicolas Sarkozy, the French president, just ending his six-month presidency of the European Union?

Proportionality is intimately bound up with notions of the just war, and has been enshrined in treaties regulating warfare's conduct since the Hague Convention of 1907. But familiar as it is, proportionality is a slippery idea. It has two different meanings in Western theory. On the grounds for going to war, *jus ad bellum*, the cause must be important enough to justify force; any good that will follow must outweigh the inevitable pain and destruction. In the conduct of war, *jus in bello*, any action must weigh the military gain against the likely harm to civilians.

Human-rights law has developed mostly in terms of *jus in bello*. The Geneva Conventions of 1949, dealing mainly with the protection of non-combatants in conflicts between states, were updated in 1977 to include more explicitly wars within states. Israel and the United States have not ratified the later protocols, though they do not really question the principle that armies must avoid "an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated".

The arguments are over the nebulous facts of a particular incident. Did Israel do enough to avoid civilian deaths? Do Palestinian policemen count as combatants? For Israel, the use of overwhelming force is both legitimate and, given its desire to restore its "deterrent effect" towards its enemies, sometimes necessary. Israel says that intent is what matters: it says it tries to avoid civilian deaths, whereas Hamas deliberately seeks to kill Israeli civilians with its rockets, relatively ineffective as they may be. Hamas responds with two arguments: as the disproportionately weaker party, Palestinians must use the crude means at their disposal to free their lands from Israeli occupation; more controversially, it often says there are no Israeli civilians since most Israelis serve in the army.

Proportionality in *jus ad bellum* and *jus in bello* are hard to separate: indiscriminate killing will colour the view of whether a war is justified; and even proportionate actions in battle will be denounced if the war is deemed unjust. In the Israeli-Palestinian context, arguments about legality fast turn into ones about history. If the tit-for-tat starting point is Hamas's rocket attacks, then the Israelis have a right to defend themselves; if it is Israel's occupation of Palestine or the dispossession of Palestinians when Israel was born in 1948, then Palestinians can argue for a right to resist. Proportional or not, the killing of innocents will go on until the dispute is settled.

Guinea

After the dictator, the deluge

Dec 30th 2008
From The Economist print edition

A coup prompts political turmoil after the death of a despot

Reuters

From captain to coup-leader in the blink of an eye

THE corrupt, dictatorial and long-ailing president of Guinea, Lansana Conte, was once asked about plans for his succession. "There is no question of transition," he replied firmly. So it was no surprise that when Mr Conte did finally die, at the age of 74 on December 22nd, his country rapidly descended into political chaos.

The constitutional niceties were observed for just a few hours. The head of the Supreme Court met a clutch of politicians to discuss what to do. It was in fact the National Assembly's speaker who should have taken charge temporarily, paving the way for an election within 60 days. But the debate was brutally curtailed by an announcement on television and radio that a group of army officers had taken over the government instead. A hitherto unknown captain, Moussa Camara, had formed a junta. It was a swift, bloodless coup d'état.

It is a testimony to Mr Conte's 24 years of misrule that the coup was greeted at the least with equanimity by most Guineans. Some, especially the young, were enthusiastic; anything must be better than the old man. Despite Guinea's huge mineral deposits, Mr Conte had squandered the former French colony's wealth to such a degree that it is still one of Africa's poorest countries. Political parties and civic institutions were weakened and legitimate protest squelched, often brutally, by the despotic Mr Conte. It was easy for the army to ignore the constitution on his death.

So when Captain Camara promised that his priorities would be rooting out corruption and holding elections by 2010, many of his disillusioned countrymen concurred. It helped the junta consolidate its grip. After briefly opposing the coup, most of Guinea's sidelined politicians rallied round the captain. The new rulers smartly dismantled the late president's power base, promptly sacking 22 generals.

Captain Camara says his government will "renegotiate" contracts with the foreign mining companies that operate in Guinea, the world's largest exporter of bauxite; it also produces iron ore, gold and diamonds. Yet despite generating more than 60% of the country's export revenues, the mines provide only 20% of its taxes. A big complaint against Mr Conte was that so much of the mines' revenue was siphoned off in secret deals with his friends.

Foreign reaction to the coup has been mixed. Senegal's regionally influential president, Abdoulaye Wade, urged people to support Guinea's new government. But the African Union has suspended Guinea's membership of the organisation until "the return of constitutional order".

That may be a long way off. Mr Conte himself came to power in a coup; there is every chance that Captain Camara will be ousted in another before the country holds a fair election. Even those who welcome the coup fear that the new man may turn out to be just another Mr Conte. The only certainty is that Guinea's political turmoil—and uncertainty—will persist.

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Russia

Uncle Volodya's flagging Christmas spirit

Dec 30th 2008 | MOSCOW
From The Economist print edition

The Russian government is beginning to run out of the goodies that it has traditionally used to buy popular acquiescence

Illustration by Peter Schrank

JUST over a year ago Vladimir Putin sprang a surprise on his country: Dmitry Medvedev, a former lawyer and confidant of his, was his preferred choice of successor as Russia's president. Optimists rejoiced, as a young, marketwise and non-KGB man offered some hope of a thaw. Pessimists predicted that, at best, Mr Medvedev would play a nominal role, with Mr Putin retaining real power. So far the pessimists have won. Nobody, in Russia or the West, doubts that Mr Putin, who is now prime minister, is still the boss.

Mr Putin makes all the main decisions and hands out money. He acts as leader of the nation—and doubles as Father Christmas, making little boys and girls happy. He took on this particular role in a recent televised phone-in session with the Russian public. One caller was a nine-year-old girl from a village in south-east Siberia who asked Mr Putin to be a magician and give her a new dress, like Cinderella's. The speechless girl and her family were whisked to Moscow to meet Uncle Volodya and receive the present from his hands. The Kremlin media added dollops of syrup to the saccharine tale.

Yet on the very day the girl arrived in Moscow, riot police were brutally beating up protesters and journalists in the country's far east. The immediate trigger of the protest was the government's decision to raise import duties on used foreign cars so as to protect Russian carmakers. Selling (and servicing) right-hand-drive cars imported from Japan has long been one of the economic mainstays for thousands of people in the region.

Significantly, the Kremlin could not rely on the compliance of local police (who also drive used Japanese cars). Instead, it had to fly special police units from the Moscow region to disperse the 1,000-odd demonstrators in Vladivostok, on the Pacific coast. Kremlin-controlled television channels chose to ignore the clashes, which only made the protesters even angrier. What started as a rally against a specific economic measure turned into a political demand for Mr Putin to step down. The protest was not the result of the economic crisis but of the government's actions—which, as Vladimir Ryzhkov, a liberal politician, says, exacerbated the distant region's sense of alienation from Moscow.

Russian interior ministry officials admit that the country's worsening economic situation could spark further protests among the working population over unpaid wages or threats of lay-offs. The risks are especially high in "monocities" that depend on a single large factory or industry for employment. There is no shortage of these in Russia. Sergei Guriev, head of the New Economic School in Moscow, says that social discontent across the country is the Kremlin's worst nightmare, which explains why it monitors the situation in industrial cities particularly closely. It has drawn up a list of some 300 firms that could receive

state help, many of which are the chief employer in their area. Yet, after watching some $150 billion in foreign-currency reserves melt away in the first few months of the crisis, the Kremlin is now being careful with money, making more promises than actual payments. The government has also averted a banking meltdown, says Mr Guriev.

What Russia’s economic crisis certainly marks is the end of an implicit social contract between the Kremlin and the people. This was based on rising real incomes and selective repression. Economic growth, which has averaged 7% a year recently, has now come to an abrupt halt. Indeed, Russia faces a real risk of recession, as industrial production is declining fast. Real incomes, which have been growing even more rapidly than the economy, fell in November by 6.2% on a year earlier; wage arrears have almost doubled. The rouble is steadily losing value against the dollar. There is little doubt that Russia is heading into one of its most difficult years.

Television propaganda, which has portrayed improving living conditions as part of the Kremlin’s grand design for lifting Russia off its knees against the ill wishes of the West, has proved helpless when it clashes with cold reality. One recent opinion poll shows that, over the past two months, trust in media coverage of the economic situation has declined dramatically. Only 28% of Russians now think that their media coverage is objective (against 37% two months ago).

As Kirill Rogov, a political analyst, puts it, the Kremlin now has the choice of allowing politics back on to television screens or clearing people off the streets. The violence in Vladivostok suggests that it has so far chosen the second. As if in preparation for unrest, Russia’s servile parliament has just abolished jury trials for such crimes as organising mass riots and treason, while also expanding the definition of treason. In a conflicting signal, though, the Kremlin has appointed a former opponent and liberal, Nikita Belykh, to govern the difficult Kirovsk region. It has also allowed human-rights campaigners to gather in central Moscow recently.

It is unclear what a new social contract might look like, but some political shift is inevitable. This does not mean that Mr Putin’s regime will simply crumble, as some liberals hope. The Kremlin still has plenty of money, plus a reserve of popular trust in a “good tsar”. So far the spin-doctors have successfully insulated Mr Putin from responsibility, portraying him as a benefactor instead. A recent change in the constitution lengthens the presidential term from four to six years, giving him an option to return as president in 2012 (or even earlier) for another 12 years. But if Russia runs out of money before oil prices recover, Mr Putin’s magic will quickly run out.

Ukraine's government

From heroic to farcical

Dec 30th 2008 | KIEV
From The Economist print edition

As Ukraine’s politicians bicker, the economy slides

AFP

Yuletide Yulia speaks out

IN-FIGHTING has been a chronic condition of Ukrainian politics for years. The benevolent idea, often from outside, is that it is all part of the democratic process. The grumpier view of many Ukrainians is that it is a sign of the incompetence and immaturity of the elite. Since the “orange revolution” in 2004-05, Ukraine’s politics have moved from heroic to melodramatic, tragicomic to comic, and finally to farcical. A recent satirical television show likened it to a game of chess in which the first white move is for the king to take his own queen.

Until recently, ordinary Ukrainians took little notice of the game’s twists and turns. Indeed, the less time politicians had to interfere, the better the economy did. Yet the financial crisis has sent that into reverse. Ukraine has been one of the worst-affected of all emerging markets. GDP shrank by more than 14% in November on a year ago, and industrial production by twice as much. The hryvnia has lost half its value against the dollar. Erratic behaviour by the central bank has prompted accusations ranging from corruption to insanity. Lay-offs, especially in the industrial south-east, are running into the tens of thousands. Rising unemployment could fuel both crime and street protests.

On top of all this Russia, in its now traditional new year’s greeting, has threatened to cut off gas from January 1st if Ukraine does not settle its $2 billion outstanding gas debt. Despite falling oil prices, Russia also wants to more than double gas prices. In preparation for this recurring stand-off, Ukraine has filled up its reservoir with enough gas to last it until the end of the winter; and falling industrial production will also mean lower gas consumption. But a row with Russia is the last thing that Ukraine needs right now.

One politician who might be well-placed to ride a wave of social discontent is Viktor Yanukovich, leader of the Party of the Regions, who draws his support mainly from the Russian-speaking south-east. He is in opposition despite leading the biggest party in parliament. Yet the prime minister, Yulia Tymoshenko, is in combative mood. “I have appealed to all political forces in Ukraine to unite in the face of the crisis,” she told this correspondent.

As ever, Ukrainian politicians show little sign of unity. Ms Tymoshenko’s main rivalry is not with Mr Yanukovich at all, but rather with her erstwhile orange-revolution ally, President Viktor Yushchenko. The situation has become so absurd that Mr Yushchenko is trying to block the work of the cabinet, half of which he chose. Since Ms Tymoshenko became prime minister (again) in 2007, the president has made her work virtually impossible—though as a seasoned populist she has also made promises far beyond Ukraine’s means.

A few months ago Mr Yushchenko tried to dissolve parliament and call a fresh election. For several weeks parliament had no speaker, making the passing of laws extremely hard (though it did at least approve a set of emergency measures to back a $16.4 billion IMF loan). In retaliation Ms Tymoshenko tried to checkmate Mr Yushchenko by teaming up with Mr Yanukovich instead. But some of Mr Yanukovich’s financial backers did not like this idea. Now she has managed to pull some of Mr Yushchenko’s own supporters over to her side and form a new coalition that takes in the small party of Vladimir Litvin, who served as speaker before the orange revolution and has now got the job back again.

Yulia Mostovaya, editor of *Zerkalo Nedeli*, a political weekly, says this coalition is weak and unstable. Part of its agreement is to avoid any elections before the presidential vote due in early 2010. Ms Tymoshenko, who plans to run then, says of Mr Yushchenko (whose popularity rating is in the low single digits): “I would not go to any more elections if I were him.” Yet in the words of Anatoly Gritsenko, a former defence

minister, “a huge economic tsunami is hanging over the country” while the politicians bicker. “The presidency should be the last thing on the minds [of the main politicians], because one can become president, but receive a country in ruins.”

Turkey and the Kurds

Television diplomacy

Dec 30th 2008 | ANKARA AND DIYARBAKIR
From The Economist print edition

Hopes that a new channel may herald fresh reforms

ROJIN is a feisty, beautiful Kurdish bard who belts out nationalist ballads. As a result, private Kurdish television channels that showed her were long penalised or even taken off the air. But now she will be a regular on Turkey's stultified TRT state television, which this week launched a 24-hour Kurdish channel in the main Kurdish dialect, Kurmanji.

A contradiction, yes. But it may just suggest that the Justice and Development (AK) party is regaining the reformist zeal that made it one of Turkey's most popular and progressive governments. Kurdish hardliners scoff that the new channel is a cynical sop to the country's 14m-odd Kurds before local elections in March. When Recep Tayyip Erdogan, the AK prime minister, told an audience of Kurds in Diyarbakir in 2005 that the state had made mistakes in its treatment of the Kurds, his party won many a Kurdish heart (and vote). But it has lost them since he succumbed to the army's demands to deal with Kurdish PKK rebels by force, not negotiation.

The army has been relentlessly pounding PKK guerrilla bases in northern Iraq. The PKK's civilian arm, the Democratic Society Party, which has 20 elected parliamentarians, has been consistently snubbed by the AK government. Court cases bordering on the ludicrous continue against its members and against Kurdish-run municipalities that name their streets after eminent Kurds. One child in a Kurdish family from Germany was refused entry at the Turkish border recently because he had a Kurdish name.

Even radical Kurds express hope that the new television channel, however wimpish, may spell a new beginning. Indeed, they hope the AK will renew the reform promises that helped it to win re-election, with a bigger share of the vote, in July 2007. Mr Erdogan is expected to make a statement during the televised launch. Kurdish dissidents are due to host some of its shows. Whether it can compete with the PKK's hugely popular satellite channel, Roj, is another question.

Private Kurdish television channels in Turkey are allowed to broadcast in their mother tongue for only four hours a week. Every show is vetted and has to have Turkish subtitles, making live programmes impossible. But the fact that Shivan Perwer, one of the most renowned Kurdish nationalist singers, is considering appearing on TRT's Channel Six is being widely hailed as a breakthrough.

In another move, some 200 Turkish intellectuals have launched an internet petition about the massacre of hundreds of thousands of Armenians during the collapse of the Ottoman Empire, saying that they are sorry. The text of their apology does not use the term genocide, favoured by Armenians. But at least 25,000 Turks, from many different walks of life, have signed the petition, prompting calls of treason by far-right nationalists. Mr Erdogan himself has called the petition "a mistake". The country's president, Abdullah Gul, who has spearheaded secret talks to normalise relations with Armenia, has been accused by an opposition parliamentarian of having Armenian ancestry. He took her to court, claiming his lineage was Turkish and Muslim to boot.

The petition's signatories have also been assailed by many Armenians, who dismiss it as a ploy to get Barack Obama, who has used the G-word in the past, to drop it. Yet some are less recalcitrant. Khatchig Mouradian, a writer in the Armenian diaspora, says that "without such initiatives, traditional diplomacy resolves too little, late, and risks looking like mere make-up on a deeply scarred face."

Spain's unemployment

Longer dole queues

Dec 30th 2008 | MADRID
From The Economist print edition

The social consequences of fast-rising job losses

THE "Fat One", Spain's record-breaking El Gordo lottery, made it an especially cheery Christmas in Soria. The €2.1 billion ($3 billion) prize draw was worth an average of €2,500 for each of the city's inhabitants. As a stimulus package, that beats the Spanish government's by a factor of ten.

For the million Spanish families who saw a wage-earner lose their job in 2008, Christmas was a lot grimmer. The Spanish economy tends to exaggerate both the glories and the pain of its neighbours. When they grow, it grows faster; when they shrink, it is among the worst-hit. Over this decade it has created more jobs than any other country in Europe; now it is destroying them equally briskly.

The jobless rate is now 13%, over 3m, compared with a European average of 7%. Spain has as many unemployed as Germany, with a population 80% bigger. The future is scarier still: some forecasters talk of 16% unemployment, and Spain's savings banks predict 18% (over 4m people) in 2010. The construction bust is adding extra victims to those of the credit crunch. And for the first time Spain faces recession with a big immigrant population, which has risen eightfold in a decade, to just over 5m.

José Luis Rodríguez Zapatero, the prime minister, has conceded that 2009 will be a "serious challenge". But he added optimistically that "the Spanish economy is in a condition to recover employment because it is strong." Recovery will start by the end of the year, he predicted. His optimism has not rubbed off on others, starting with the car workers. Just after Christmas, workers from General Motors took to the streets, following a trail blazed by those from Nissan and Renault. All three firms are going through the costly and time-consuming business of laying off workers. This red tape, says the governor of the Bank of Spain, Miguel Ángel Fernández Ordóñez, must go if Mr Zapatero wants fresh jobs.

Other much-needed measures to transform Spain's economy, such as better education and more research, are either not happening or will come too late for this recession. Even trade unions are angry over the opportunities missed in a decade of rapid growth. "We were walking with feet of clay," says Jesús Pérez, employment secretary of the General Workers Union.

So what is Mr Zapatero doing? He claims that a €33 billion public-works programme will lead to 25,000 new building projects by May. Spain's low debt burden creates some room for manoeuvre. Yet even a recovery by December will be too late for a first wave of jobless who will by then be running out of their statutory unemployment benefit. Mr Zapatero has pledged to look after them, but that will cost money. The welfare system is less generous than most. Spaniards traditionally fall back on families for support, housing and jobs at times of crisis. But the family nowadays is weaker, smaller and sometimes led by single parents.

Caritas, a church-run charity, saw a 75% rise in requests for help during 2008. It is seeing two novelties in this recession: those needing help are often struggling to pay for their homes; and many are immigrants, who tend to be the first both to lose their jobs and to use up their welfare. Victor Renes, Caritas's research chief, worries that racism may now raise its ugly head.

Mr Zapatero is offering immigrants lump-sum payments to go home. Yet some economists want immigrants, who form a go-anywhere, do-anything pool of workers that will be critical in a recovery, to stay. "They are more flexible than Spaniards," says Pablo Vázquez, director of the Foundation of Applied Economics Studies. "We think immigrants are necessary and can help us overcome this crisis."

Kosovo and Serbia

Deployment days

Dec 30th 2008 | BELGRADE AND PRISTINA
From The Economist print edition

The row over Kosovo's independence may be dwarfed by economic concerns

FOR months the European Union's biggest civilian mission, known as EULEX, was in limbo. Planned to consist of 1,900 policemen, judges and others, it was due to replace the United Nations after Kosovo declared independence from Serbia last February. Yet it was blocked because Serbia, which controls small Serb enclaves plus a chunk of northern Kosovo, declared it illegal; and the EU did not want its writ to run only in Kosovo's Albanian areas.

Yet early last month the EULEX mission at last deployed across the whole country. Serbia's government is desperate to get closer to the EU. But so long as it obstructed EULEX, the EU could block Serbia's road to Brussels. In the event, the deployment of EULEX went without a hitch. Some UN police switched over seamlessly to EULEX; hundreds more arrived. Indeed, after such a tense build-up, the start of the mission turned out to be a huge anti-climax. Serbia's government got some of what it wanted, notably UN endorsement of the mission; Kosovo got EULEX deployed in Serb areas. In this way both sides can indulge in political fantasy: Serbia pretends that Kosovo is not independent and Kosovo's government pretends to be sovereign over the whole country.

Since then Serbs and Kosovars have continued to needle each other. In early December Serbia (and Bosnia) banned goods coming from Kosovo, because their documents were presented with Republic of Kosovo not UN Kosovo stamps. Kosovo is retaliating by banning the import of Serbian and Bosnian goods from January 1st. Serbian police have just arrested ten ex-members of the wartime Kosovo Liberation Army who were in an Albanian-populated area of Serbia, accusing them of murders and kidnappings of Serbs and others just after the 1999 war.

Such actions are designed to make Serbian and Albanian politicians seem tough. Yet what many in both countries have not grasped is that dealing with the fall-out from Kosovo's independence is no longer their biggest problem. The full force of the global financial crisis is now engulfing the Balkans. Arguing about whether Serbian biscuits can be imported into Kosovo or minuscule quantities of fruit juice can go from Kosovo to Bosnia will soon appear trivial and quaint.

Kosovo suffers from huge unemployment. Many families rely on remittances from relations abroad. According to Shpend Ahmeti, head of Kosovo's Institute for Advanced Studies, some €400m ($560m), or 15-20% of Kosovo's GDP, comes from money sent home every year. But the forecast is gloomy. Kosovars abroad often work in businesses hit hardest by recession, such as carmaking and construction.

In Serbia the gloom has been obscured because the government has just struck a controversial deal to sell a majority stake in its oil industry for a modest €400m to Russia's Gazprom. In exchange Serbia has received a political commitment that part of Gazprom's South Stream gas pipeline, from the Black Sea to Italy, will run through Serbia. But there is no disguising the harsher reality. Serbia's biggest exporter, US

Steel, which employs 6,000, has been dealt a huge blow by collapsing steel prices and has cut production sharply. It is only the most prominent victim so far.

Christians in Kosovo

Conversion rate

Dec 30th 2008 | PRISTINA
From The Economist print edition

A surprising story of Muslim converts to Christianity

A CHRISTMAS tree dominates the centre of Pristina. Nearby a huge Catholic cathedral is being built. Farther off stand statues of two Albanian heroes: Mother Teresa of Calcutta, a Catholic nun, and Skanderbeg, a medieval prince who renounced Islam for Catholicism. Yet 95% of Kosovo's 1.8m ethnic Albanians, out of a total population of 2m, are nominally Muslim. Don Shan Zefi, a Catholic cleric, says there are only 65,000 Catholics in Kosovo.

If Don Zefi has his way, there will be a lot more in future. On Christmas Eve some 38 people were baptised in a single town, Klina. Conversions to Christianity have become common (though a cautious Catholic church does not give precise figures). Don Zefi says he knows of large numbers more in "tens of villages" who want to convert.

He dislikes the word, because many of them come from a crypto-Christian background. Their forefathers may have converted to Islam under Ottoman rule, but behind closed doors they kept their old Catholic practices. Jahja Drancolli, a historian, adds that "religion has always been secondary" to being Albanian. Converts, he says, "want to return to the old religion they believe they had" and to show that they are "part of the Euro-American trend." For every convert, anecdotal evidence suggests more go to church or are interested in Christianity.

The Catholic church is not the only one active in Kosovo. Since 1985, says Artur Krasniqi, a Protestant pastor, as many as 15,000 Kosovar Albanians have converted to Protestantism: 2,000 regularly attend church. He says that Kosovo, despite being nominally mostly Muslim, has "no religious identity". But he worries about the rising influence of radical Muslims. Protestants, he complains, cannot get separate sections in cemeteries because the authorities do not want to provoke quarrels with local Muslims.

What about Orthodoxy? Close by Pastor Artur's office is the empty hulk of the unfinished, abandoned Serbian Orthodox cathedral in Pristina. Kosovo's Serbs, who are Orthodox, make up the largest Christian group in Kosovo. They no longer live in the capital but in the north or in scattered enclaves and villages. Since the 1999 war, dozens of their churches have been destroyed. Worse, the Serbian Orthodox church in Kosovo is riven by a political split that has seen monks brawling and fighting. In Belgrade the 94-year-old Serbian Orthodox patriarch, Pavle, has long been gravely ill and a vicious war of succession is being waged. For now, other forms of Christianity seem more peaceable.

Retailing gloom

Shopped out

Dec 30th 2008 | LEEDS
From The Economist print edition

Amid hectic shopping more famous names on the high street face ruin

PA

IN THE city centre, Poundland is heaving with post-Christmas bargain hunters snapping up everything from underwear to shampoo, some of it for even less than the promised £1 ($1.46). Elsewhere in Leeds brightly coloured sale signs fill shop windows as varied as Ann Summers, a racy lingerie chain, and Harvey Nichols, a pricey department store.

For most on the high street, it has been a grim few months, and Leeds is no exception. Next door to Poundland, the Officers Club, a men's fashion chain which recently called in administrators, is selling dinner jackets for less than the price of a night out (£20.80 to be exact) and slashing 60% off much else. Nearby a sports outfitter and greetings-card shop are both holding closing-down sales, with 75% off. A branch of zavvi, a music and video store that has also collapsed, is handling queues 20 people deep at its tills as shoppers rush to snap up discounted £2.99 albums and to spend gift vouchers while they can.

Nick Hood, a partner at Begbies Traynor, a corporate-rescue specialist, has not seen such "velocity and volatility" in company fortunes in 40 years. He predicts another five or ten notable insolvencies in the retail sector and at least a year of agony before things get better. That estimate does not include recent casualties, such as Woolworths, a big general store, MFI, a furniture chain, and Adams, a children's clothing shop.

The volatility includes an extraordinary 12.8% leap in retail sales in the last week of 2008 compared with the same week in 2007, according to Experian, a market monitor. The splurge was spurred by unprecedented discounts offered by retailers after sluggish pre-Christmas sales. Consumers had held back, expecting even better bargains, and their instinct paid off.

Such desperate discounts may have cleared shelves but they have also cut businesses to the quick, spooking potential investors and rescuers, Mr Hood fears. On top of that, the shopping frenzy is likely to be short-lived. Rupert Eastell at auditors BDO Stoy Hayward expects a period of three to five months in which "consumers will not spend".

Conditions will be particularly tough for mid-size retail chains, with 100 to 250 branches, because few of them have the financial resources to tide them over. Sellers of discretionary goods, such as jewellery and gifts, and retailers of household furniture will face the biggest drought. Smaller high-street shops are under threat from all sides: their biggest VAT (value-added tax) bill comes at the end of January; many are reeling from their quarterly rent bill due at the end of December; in April they will be hit by a 5% rise

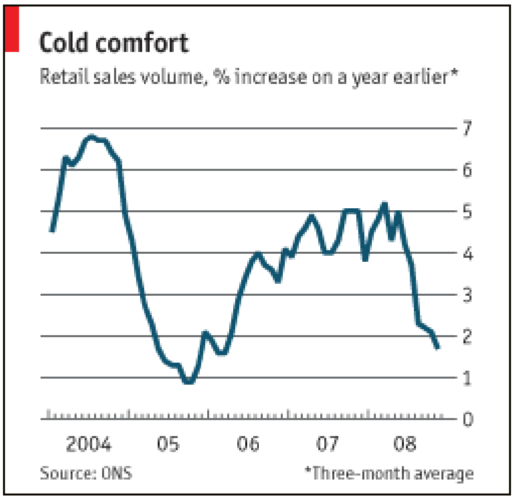
in business rates; and the falling pound has increased the cost of imported goods. Banks feel unable to tide companies over unless they have a convincing business plan—hard in such an unforgiving economic climate.

Jonathan de Mello at Experian foresees a radical restructuring of the market as consumer habits change and smaller retailers go to the wall. The winners are likely to be the big shopping centres where people go for an experience which might include a decent meal and also encourages them to shop on impulse as well as for necessities. Shops in high streets without sufficient “footfall”, however, will be among the losers. Meanwhile discounters such as Primark, for clothes, and Aldi, for groceries, are becoming more acceptable to a wider audience. So is Morrisons, a national supermarket chain which has its roots in Bradford. It recently reported that quarterly sales had risen by 8.1% compared with the same period in 2007.

Statisticians are puzzling over the role in this crisis of internet shopping and how much it is eroding high-street business. Recent official figures suggest the impact has been limited. Although internet sales have been rising rapidly they still amounted to only 3.8% of all retail sales in November.

Overall official figures for retail sales suggest that this downturn is no more dramatic than the one experienced in 2005 (see chart). But there is considerable scepticism about these estimates, which run counter to other surveys painting a much gloomier picture. And the finances of several retailers that overstretched themselves in the good times look shaky. A sudden fall in sales will leave them without cash at a time when bank overdrafts are hard to secure or to increase. There are few investors ready to swoop in to keep cash-strapped companies running. EPIC, a private-equity firm which rescued Whittard of Chelsea, a tea merchant that had gone into administration, is a rare exception.

Retailers’ woes will spread far beyond the high street. Leeds has some 41,000 jobs tied up in retailing, accounting for about 9% of total employment, and had planned to create another 3,500 retail jobs over the next decade in part by building two big shopping developments. One of them, Trinity Quarter, is scheduled to open in spring 2010. The planning application for the other has just been deferred.



Around 3m people are employed in the retail sector across the country—as many as work in manufacturing. But many of those jobs will be at risk as the retail recession bites in earnest. On December 29th the Chartered Institute for Personnel and Development, a trade body, predicted that 600,000 people might lose their jobs in 2009, of whom a third are likely to be in the retail and wholesale sector. Retailers, buoyed for so long by a protracted consumer boom, are now in the front line of a consumer bust.

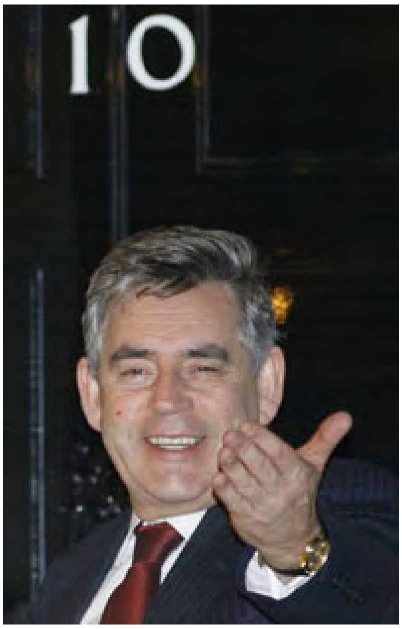
Election speculation

Will he, won't he?

Dec 30th 2008
From The Economist print edition

An all-too-familiar dilemma for Gordon Brown

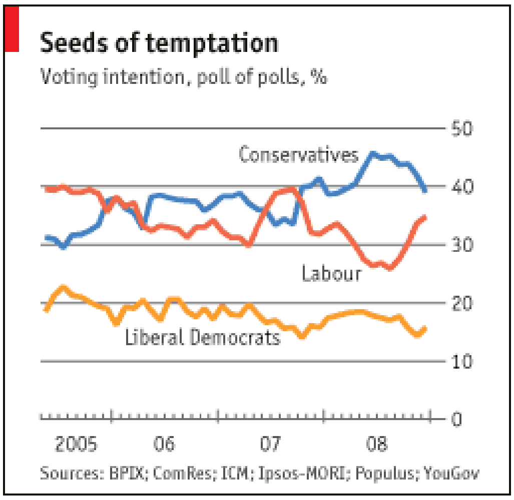
Reuters



Bring it on?

FOR a man scarred by his calamitous flirtation with a snap election in 2007—souring opinion polls forced a humiliating retreat—Gordon Brown seems surprisingly willing to thrust his fingers back into the fire. Rumours abound that the prime minister, whose well-received handling of the economic crisis has put Labour within touching distance of the Conservatives in the polls (see chart below), will cash in on his comeback by calling an election in 2009. He was previously expected to cling on until the last possible date the following summer. True, Mr Brown is not stoking the speculation as coquettishly as he did last time. But neither is he squashing it—going only as far as to rule out a ballot in February or March.

The temptations for Mr Brown are obvious. His trustworthiness on economic matters may not survive the job losses and repossessions that seem certain to mount as time passes. Delay also allows the Conservatives to hone their own ideas for dealing with the recession, which have fallen flat so far. On December 28th George Osborne, the shadow chancellor, promised that he would seek to reverse Labour's planned increase in national-insurance contributions, due in 2011. Moreover, a vote in 2009 would be hard to portray as a self-interested gambit on Mr Brown's part: the last general election was in 2005, and four years has been the standard interval under Labour.



One sign that an early election is more than overheated Westminster gossip is the seniority of those advocating it. In 2007 Mr Brown was goaded on by excitable young advisers. Now the argument is reputedly being advanced by the likes of Lord Mandelson, the business secretary who has the ear of the prime minister. Charlie Whelan, Mr Brown's seasoned former press secretary and now a senior trade-union official, has publicly talked up a snap election.

If Mr Brown heeds such advice, June 4th looks the most propitious date for a poll. Local and European elections are already scheduled for that "Super Thursday". The spring budget may give Mr Brown a chance to seduce voters further, though there is precious little fiscal scope left for giveaways. And the G20 summit, which will be hosted by Britain in May, is the kind of platform on which the prime minister thrives. Kick-starting a campaign with a photo-opportunity beside Barack Obama may prove a beguiling scenario.

If, on the other hand, the prime minister eventually demurs, it may be because of misplaced confidence as much as his notorious caution. Mr Brown is understood not to regard the political bail-out he has enjoyed as a transient blip that owes everything to the *deus ex machina* of the banking crisis. Instead, he believes the real aberration was the wretched 12 months he endured between the snap-election fiasco and his recent comeback.

There are other reasons to think that Mr Brown may hold his fire. Labour still lag behind the Conservatives in the polls; it would be unusually risky of him to assume he could reverse that deficit during a brief campaign. He may also have learned from the Tories' unexpected triumph in 1992, an election held after the worst of a recession was over. If a recovery has started by the middle of 2010, Mr Brown may be able to pose—as he did in his new year's message this week—as something approaching a victorious wartime

leader.

High-speed rail

A surprising conversion

Dec 30th 2008
From The Economist print edition

The politics if not the economics are turning in favour

ONCE it was a wistful dream of technophiles, railway buffs and fringe pressure groups. But in recent months the idea of a British high-speed rail network, similar to those pioneered in Japan and France, has begun to attract some serious political traction.

The Conservatives, traditionally the party of the motor car, endorsed the vision last autumn. In September Theresa Villiers, the Tory shadow transport secretary, claimed that a fast railway connecting London with Leeds by way of Birmingham and Manchester could obviate the need for the unpopular and ungreen third runway planned for Heathrow airport.

Now an even more surprising change of heart has occurred within the Labour government. Andrew Adonis, the minister in charge of railways, backed high-speed trains in the January issue of *Prospect*, a current-affairs magazine. He argued that, with even rail-phobic America now considering fast trains, Britain risked being left in the dust.

The minister's enthusiasm was striking because it ran counter to the conclusions of a hefty transport report that Gordon Brown commissioned while at the Treasury. The study, conducted by Sir Rod Eddington, a former boss of British Airways, called in 2006 for piecemeal improvements to deal with Britain's chronic transport congestion. These included incremental upgrades to the railways and an expansion of the road network. Sir Rod's most ambitious recommendation was for a national road-pricing scheme to clear Britain's sclerotic highways. He took a dim view of high-speed trains, saying that their benefits were unproven and they were likely to be too expensive: ministers should beware of being "seduced by *grands projets*".

Since then, however, Labour's transport policy has fallen apart. A popular petition scuppered plans for a national road-pricing scheme. An indirect approach failed on December 12th, when the citizens of Manchester voted against a local congestion-charging plan that ministers had hoped would evolve into a national scheme. Meanwhile many Labour MPs are unhappy with the proposed third runway at Heathrow, which makes the Tory alternative more attractive.

Despite the political enthusiasm for high-speed rail, its fate will hinge on whether it is commercially viable. Some preparatory work has been done. In early 2008 Arup, an engineering firm, drew up plans for a £4.5 billion ($6.6 billion) privately funded link from St Pancras station (where Britain's only existing high-speed line, from the Channel Tunnel, reaches London) to Heathrow. But that still leaves the connection with the north to be made.

There are two reasons why such a link may now be more viable than in the past. For one thing, passenger numbers on the existing network are rising fast. For another, the commercial case for high-speed rail should be strengthened once aviation starts to pay its true environmental costs through carbon pricing.

Yet the history of British transport policy suggests grounds for caution. Crossrail, a scheme designed to improve London's rail system, traces its ancestry to 1974. A third of a century later details are still being hammered out and construction has still not begun. *Grands projets* may be appealing to politicians. But Britain's existing railways were largely built by private companies, whose backers eventually lost their shirts. Bitter experience shows that private rail investment is risky, but if high-speed schemes require public funding, they are likely to find the Treasury's response more than usually terse given today's straitened public finances.

Crime statistics

The unkindest cut

Dec 30th 2008
From The Economist print edition

Knife crime is a problem. So is political meddling with numbers

CRIME—who commits it and who suffers the consequences; whether it is rising or falling—is an obsession of the British electorate. Voters regularly place it at or near the top of their concerns, along with health, education and high levels of immigration. Although a tanking economy has pushed these hardy perennials down the list, crime is still on Britons' minds, with a third of them saying it is one of the important issues facing the country today.

Such worries will have been increased by new figures assembled by the Conservative Party on a particular concern: knife crime. On December 29th the Tories published an estimate of the number of deaths by stabbing in England and Wales between April 2007 and March 2008. James Brokenshire, the shadow minister on home affairs, pre-empted official figures, due early in 2009, by asking individual police forces how many people had been stabbed to death on their patches over that period and adding up the responses. His total of 277 may be a little on the high side (each year a few stabbings are reclassified as accidental deaths when police examine their circumstances in greater detail). But his tally suggests a rise of more than a third since Labour came to power in 1997, and an all-time high since comparable figures were first collected in 1977.

These freelance Tory figures run counter to the broader official story on crime. The British Crime Survey (BCS), generally regarded as the most authoritative source, has been showing a more comforting trend of falling crime—by a tenth in the most recent year and by almost a half since its 1995 peak. Yet the Conservatives will get a ready hearing because of widespread distrust of official figures. Despite the reassuring findings of the BCS, two-thirds of its respondents say they think crime is rising.

One reason for such public scepticism is years of spin and counter-spin with official numbers. In a belated attempt to restore trust the government created in April 2008 the UK Statistics Authority, an independent body with the power to enforce a new code of practice to which all government statisticians must adhere, and more generally to publicise numerical foul play. Yet despite this show of good faith, earlier in December the government itself transgressed—over figures for knife crime.

On December 11th the Home Office published statistics supposedly supporting the success of measures it had introduced six months earlier in ten urban areas with particularly high rates of knife crime. The proportion of teenagers stopped and searched in these areas who turned out to be carrying knives had fallen by more than half, crowed the government's propagandists, and the number killed or seriously injured by knives by 17%.

Initially the figures got the desired headlines, but they were swiftly followed by a rebuke from the government's own watchdog. The numbers should not have been published at all, said Sir Michael Scholar, the authority's chair, and the statisticians who produced them had tried unsuccessfully to prevent their "premature, irregular and selective release". Jacqui Smith, the home secretary, had to apologise to Parliament for the misstep.

That was a welcome victory for the Statistics Authority, which until then had kept a worryingly low profile. But it will have to win more such battles if public confidence in official figures, not least those on crime, is to be restored.

Higher education

The future is another country

Dec 30th 2008
From The Economist print edition

A world of colleges without borders should benefit everyone, including students who stay at home

Newspix

JUST a few decades ago, students at universities outside their home countries formed a tiny elite. Some gained scholarships with famous names like Rhodes or Fulbright; others were sent by governments, grooming them for top jobs in academia or public service. A few were born to cosmopolitan parents who searched for the best schooling money could buy.

That picture has changed. The 20th century saw a surge in higher education; in the early 21st century, the idea of going abroad to study has become thinkable for ordinary students. In 2006, the most recent year for which figures are available, nearly 3m were enrolled in higher education institutions outside their own countries, a rise of more than 50% since 2000.

One reason is the growth of the global corporation; ambitious youngsters sense that a spell studying abroad will impress multinational employers. But for school-leavers in the developing world, the poor teaching and lack of places at home are stronger factors. China, the biggest "sending" country, with around 200,000 students currently in higher education abroad, has university places for less than a fifth of its 100m college-age youngsters. In June 2008 around 10m sat the *gao kao*, the state university entrance exam. There were places for two-thirds of them. That is despite huge growth; the number of places has risen almost fivefold in as many years.

The general level of China's higher education remains low. In 1966 Mao Zedong closed the universities and scattered their teachers; when they re-opened they were short of cash, and a preference for rote learning still leaves many graduates ill-prepared. A 2006 study by McKinsey, a consultancy, found that of the country's 1.6m young engineers only 10% were capable of working for multinational firms.

In the 1990s, China began pouring money into research at around 100 of its 1,800-odd higher-education institutions, hoping to create an elite tier of universities. But the country has yet to register on the global education scale: a ranking by Shanghai Jiao Tong University puts no Chinese institution in the world's top 200 universities; Britain's *Times Higher Education* magazine puts Peking University 50th and only six Chinese institutions in the top 200. For Chinese youngsters who can raise the cash, study abroad looks attractive.

Students travel to help themselves, but universities and host countries gain too. Around a fifth of university students in Australia were born abroad, and international education is the country's third-biggest export after coal and iron ore. Foreign students who work in their spare time plug gaps in Australia's labour markets.

But some ideas risk succeeding too well. Since 2001 foreign students in Australia have been able to apply for residence; so the marketers of that country's campuses have been touting an enticing deal—take a vocational course in a field where Australia needs expertise; work while studying; then settle for good.

According to Fiona Buffinton, head of Australian Education International, a government agency, about a third of the country's foreign students are motivated mainly by the hope of gaining residence, and a third primarily by the education on offer, while also nursing hopes of staying on. Only a third plan to go home after their studies. She fears that if Australia does too well at attracting students seeking a back door to immigration, its position in the global education market—and its attractiveness to really serious students—will suffer.

Such worries are a reminder that in a global business, reputation is easily lost. In Britain, too, students from distant lands help to balance the universities' books: fees for students from the European Union are capped at uneconomic rates. But a study by the Oxford-based Higher Education Policy Institute sounded a warning: Britain's "quickie" masters degrees (doable in a year, and nice earners for colleges) are coming to be seen as substandard. Meanwhile, a survey of Chinese students in Britain found that many felt their institutions valued them only for their fees.

Ideally, "sending" countries can benefit as much as those who take students. Taiwan urges its students to leave, although with 164 universities for a nation of 23m, there is no clear need. "We push them out, especially [doctoral] students," says Ovid Tzeng, a government minister. "Otherwise everyone works on the same problems."

A wise view—though the benefits of exporting brains can be slow to materialise. Once again, China's history is instructive. In 1978, Deng Xiaoping decided to send 3,000 scientists to foreign universities each year for training. Even if 5% did not return, he said, the policy would be a success. In fact, only a quarter of the students who left China as a result ever returned.

So by 1990 China had a brain drain, and this prompted a row within the government, notes David Zweig, a Hong Kong-based scholar. Some wanted to make students return; others saw little point, since China lacked facilities to make use of the students' training. Zhao Ziyang, the Communist Party chief, said it would be more far-sighted to "store brain power overseas". His ideas prevailed: a new policy urged Chinese people living overseas to "serve their nation from abroad" as consultants, investors or scholars.

The dream of bringing well-trained Chinese minds home is having some success. Some of the cash earmarked for elite universities is being used to lure scholars back to the motherland. Both the Academy of Sciences and private donors such as Li Ka-shing, a Hong Kong-based billionaire, are dishing out money to make conditions attractive for returning Chinese scholars.

This sort of global contest for grey matter certainly makes for a bracing environment. By contrast, when universities mostly recruit locally, well-known campuses can coast along, knowing they have a brand that can hardly be challenged. In a global market, cross-border partnerships can alter the scene, and create entirely new brand names, in very unexpected ways.

Here too, China offers interesting case studies. Under a law passed in 2003, foreign universities were permitted to set up campuses, or whole universities, inside China, if they partnered with a local body. In the short period before the government called a halt to take stock, two British universities moved in. Nottingham University opened a campus in Zhejiang province, in 2005; the British institution recruits students and faculty, sets course content, conducts exams and confers degrees. A year later Liverpool University, in partnership with Xi'an Jiaotong, one of China's best colleges, opened a new university 100km (60 miles) from Shanghai. The first few cohorts will get degrees from Liverpool; the new university will soon award its own degrees. Neither British university put up any capital; what is at risk in such ventures is mostly reputation. Both universities, respected in England, but not world-famous, have decided that risk is worth taking in the hope of boosting their global profile.

Meanwhile, some campuses that already flourish in the global market want to go further. Spain's IE business school ranks among the world's top ten. It now plans to go into undergraduate education—and, in the words of Santiago Iniguez, rector of IE's new offshoot—to "re-invent the university". All courses

will have close ties with the hard school of real life. Would-be psychologists will see how organisations work; art students will learn how to run auctions; architects how to deliver on time and on budget. The ethos will be thoroughly global, with teaching in English and up to 80% of students from outside Spain.

Masao Homma, vice-chancellor of Ritsumeikan University in Japan, thinks an influx of foreign students could help his country's campuses: in a homogeneous land—which in his view is growing even more introvert—such exchanges could expose Japan's young to the wider world. Academics, too, could be changed by the new arrivals. Japan's tenured faculty members are hardly challenged by home students; foreign ones could do the trick. In Britain, Mr Homma notes, a quarter of all students are over 25, while in his country the figure is only 2.7%. Japan's timid young students rarely ask questions; outsiders might.

Like many of his counterparts in rich and not-so-rich countries, Mr Homma looks forward to a world where educational shoppers take a hard look at what is on offer in the global supermarket before settling for a home-made product.

Internationalising American universities

The Americans are coming

Dec 30th 2008
From The Economist print edition

The next big shake-up of the global higher education business

AP

ALTHOUGH the United States takes a bigger share of the international student market than any other country, with 22% of the total, it underperforms in relation to its size. Just 3.5% of students on its campuses are from abroad.

What explains this? Certainly not the quality of education on offer, which is often superb. One huge factor is the way that American universities shun the intermediaries whose services are used by most students wanting to study abroad. Markus Badde, the chief executive of ICEF, a student recruitment consultancy, says two-thirds of the world's border-crossing students, and almost all of those from Asia, turn to "agents" to find a university place. But hardly any important American institution will pay intermediaries.

"There is a real hostility in this country to the use of agents," says Mitch Leventhal, vice-provost for international affairs at the University of Cincinnati. "Some universities think it is illegal—it's not, what's illegal is recruiting American students via agents. Some think it's unethical—but it's only unethical when done unethically. We know that many students, perhaps half of all undergraduate Chinese students, for example, have paid advisers at home to help them. We have no idea what that help consists of."

Mr Leventhal hopes such attitudes will alter. He is the founding president of the American International Recruitment Council, a new non-profit organisation formed by a group of educational institutions. To join the network, recruitment agents will have to accept a code of practice and get regular training. The organisation hopes American universities will be sufficiently convinced of the quality and ethical standards of member agencies that they will agree to work with them. Already 35 universities have joined; the figure should reach 100 soon. The council is working on a trial basis in Bangkok and hopes to process "large numbers" of agents by the end of 2010.

If that happens, the market in international students will be transformed. A survey carried out by i-graduate, a market-research firm, found that although few agents recommended American institutions to their clients, most wanted to. "Agents said the United Kingdom was the country in which they placed the most students," according to Will Archer, the firm's director. "But they said the country in which they would most like to place students was the United States." Those agents rated America as most desirable for undergraduate, postgraduate and MBA courses, leaving Britain in the lead only for language and foundation courses, and Australia only for vocational ones.

Mr Leventhal insists that there are lots of students to go round. But he concedes that academics in other countries are not thrilled by the American plans. "Their hair is on fire," he says. "They're saying, 'Oh my God, the Americans have finally figured it out, they're going to kill us.'"

Troubled waters

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From The Economist print edition

The sea is suffering, mostly at the hand of man, says John Grimond (interviewed here)

Magnum Photos

All of us have in our veins the exact same percentage of salt in our blood that exists in the ocean...And when we go back to the sea...we are going back from whence we came. John Kennedy

HUMAN beings no longer thrive under the water from which their ancestors emerged, but their relationship with the sea remains close. Over half the world's people live within 100 kilometres (62 miles) of the coast; a tenth are within 10km. On land at least, the sea delights the senses and excites the imagination. The sight and smell of the sea inspire courage and adventure, fear and romance. Though the waves may be rippling or mountainous, the waters angry or calm, the ocean itself is eternal. Its moods pass. Its tides keep to a rhythm. It is unchanging.

Or so it has long seemed. Appearances deceive, though. Large parts of the sea may indeed remain unchanged, but in others, especially in the surface and coastal waters where 90% of marine life is to be found, the impact of man's activities is increasingly plain. This should hardly be a surprise. Man has changed the landscape and the atmosphere. It would be odd if the seas, which he has for centuries used for food, for transport, for dumping rubbish and, more recently, for recreation, had not also been affected.

The evidence abounds. The fish that once seemed an inexhaustible source of food are now almost everywhere in decline: 90% of large predatory fish (the big ones such as tuna, swordfish and sharks) have gone, according to some scientists. In estuaries and coastal waters, 85% of the large whales have disappeared, and nearly 60% of the small ones. Many of the smaller fish are also in decline. Indeed, most familiar sea creatures, from albatrosses to walruses, from seals to oysters, have suffered huge losses.

All this has happened fairly recently. Cod have been caught off Nova Scotia for centuries, but their systematic slaughter began only after 1852; in terms of their biomass (the aggregate mass of the species), they are now 96% depleted. The killing of turtles in the Caribbean (99% down) started in the 1700s. The hunting of sharks in the Gulf of Mexico (45-99%, depending on the variety) got going only in the 1950s.

The habitats of many of these creatures have also been affected by man's activities. Cod live in the bottom layer of the ocean. Trawlermen in pursuit of these and other groundfish like pollock and haddock drag steel weights and rollers as well as nets behind their boats, devastating huge areas of the sea floor as they go. In the Gulf of Mexico, trawlers ply back and forth year in year out, hauling vast nets that scarify the seabed and allow no time for plant and animal life to recover. Off New England, off west Africa, in the Sea of Okhotsk north of Japan, off Sri Lanka, wherever fish can still be found, it is much the

same story.

Coral reefs, whose profusion of life and diversity of ecosystems make them the rainforests of the sea, have suffered most of all. Once home to prolific concentrations of big fish, they have attracted human hunters prepared to use any means, even dynamite, to kill their prey. Perhaps only 5% of coral reefs can now be considered pristine, a quarter have been lost and all are vulnerable to global warming.

A hotter atmosphere has several effects on the sea. First, it means higher average temperatures for surface waters. One consequence for coral reefs is that the symbiosis between the corals and algae that constitute a living reef is breaking down. As temperatures rise, the algae leave or are expelled, the corals take on a bleached, white appearance and may then die.

Hotter water, slimier slime

Warming also has consequences for ice: it melts. Melting sea ice affects ecosystems and currents. It does not affect sea levels, because floating ice is already displacing water of a weight equal to its own. But melting glaciers and ice sheets on land are bringing quantities of fresh water into the sea, whose level has been rising at an average of nearly 2 millimetres a year for over 40 years, and the pace is getting faster. Recent studies suggest that the sea level may well rise by a total of 80 centimetres this century, though the figure could plausibly be as much as 2 metres.

The burning over the past 100 years or so of fossil fuels that took half a billion years to form has suddenly, in geological terms, put an enormous amount of carbon dioxide into the atmosphere. About a third of this CO_2 is taken up by the sea, where it forms carbonic acid. The plants and animals that have evolved over time to thrive in slightly alkaline surface waters—their pH is around 8.3—are now having to adapt to a 30% increase in the acidity of their surroundings. Some will no doubt flourish, but if the trend continues, as it will for at least some decades, clams, mussels, conches and all creatures that grow shells made of calcium carbonate will struggle. So will corals, especially those whose skeletons are composed of aragonite, a particularly unstable form of calcium carbonate.

Man's interference does not stop with CO_2. Knowingly and deliberately, he throws plenty of rubbish into the sea, everything from sewage to rubber tyres and from plastic packaging to toxic waste. Inadvertently, he also lets flame retardants, bunker oil and heavy metals seep into the mighty ocean, and often invasive species too. Much of the harm done by such pollutants is invisible to the eye: it shows

up only in the analysis of dead polar bears or in tuna served in New York sushi bars.

Increasingly, though, swimmers, sailors and even those who monitor the sea with the help of satellites are encountering highly visible algal blooms known as red tides. These have always occurred naturally, but they have increased in frequency, number and size in recent years, notably since man-made nitrogen fertilisers came into widespread use in the 1950s. When rainwater contaminated with these fertilisers and other nutrients reaches the sea, as it does where the Mississippi runs into the Gulf of Mexico, an explosion of toxic algae and bacteria takes place, killing fish, absorbing almost all the oxygen and leaving a microbially dominated ecosystem, often based on a carpet of slime.

Each of these phenomena would be bad enough on its own, but all appear to be linked, usually synergistically. Slaughter one species in the food web and you set off a chain of alterations above or below. Thus the near extinction of sea otters in the northern Pacific led to a proliferation of sea urchins, which then laid waste an entire kelp forest that had hitherto sustained its own ecosystem. If acidification kills tiny sea snails known as pteropods, as it is likely to, the Pacific salmon that feed upon these planktonic creatures may also die. Then other fish may move in, preventing the salmon from coming back, just as other species did when cod were all but fished out in Georges Bank, off New England.

Whereas misfortunes that came singly might not prove fatal, those that come in combination often prove overwhelming. The few coral reefs that remain pristine seem able to cope with the warming and acidification that none can escape, but most of the reefs that have also suffered overfishing or pollution have succumbed to bleaching or even death. Biodiversity comes with interdependence, and the shocks administered by mankind in recent decades have been so numerous and so severe that the natural balance of marine life is everywhere disturbed.

Are these changes reversible? Most scientists believe that fisheries, for instance, could be restored to health with the right policies, properly enforced. But many of the changes are speeding up, not slowing down. Some, such as the acidification of the seas, will continue for years to come simply because of events already in train or past. And some, such as the melting of the Arctic ice cap, may be close to the point at which an abrupt, and perhaps irreversible, series of happenings is set in motion.

It is clear, in any event, that man must change his ways. Humans could afford to treat the sea as an infinite resource when they were relatively few in number, capable of only rather inefficient exploitation of the vasty deep and without as yet a taste for fossil fuels. A world of 6.7 billion souls, set to become 9 billion by 2050, can no longer do so. The possibility of widespread catastrophe is simply too great.

Scramble for the seabed

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The latest land-grab is under water and under way

Roll on, thou deep and dark blue Ocean - roll!

Ten thousand fleets sweep over thee in vain;
Man marks the Earth with ruin - his control
Stops with the shore
Byron

FOR nearly 30 years, legal control of the sea has actually stopped 200 miles from the shore, but even that is about to change. The 1982 UN Convention on the Law of the Sea allows states to extend their limits beyond 200 miles if they can show that the continental shelf beyond their coastline extends that far. So long as they can produce the necessary scientific data, and so long as the extra margin is at least 100 miles from the point at which the sea reaches a depth of 2.5km, they will be granted rights over the natural resources on and under the seabed up to 350 miles from land. For countries that ratified the convention before May 13th 1999, only four months now remain for the submission of their claims: the deadline is May 13th. A scramble for territory is nearing its climax.

Bluegreen

He may turn out to be a friend

In all, about 15m square kilometres are at stake. That is about half the area involved in the 19th-century scramble for Africa, and some big claims have already been lodged: Canada is seeking 1.7m sq km and Australia 2.5m. Many of the countries that stand to gain most relative to their size, though, are poor and small: Barbados, Mauritius and the Seychelles, for instance. Eight Pacific island nations, among them Fiji, Palau and Tonga, are claiming a total of 1.5m sq km.

The 80 or so countries with realistic hopes of being able to substantiate a claim are not expecting new fishing rights. Their designs are chiefly on minerals. Many people have for years believed that the seabed was paved with gold, and with some reason. It has long been known that roughly a quarter of the ocean floor is strewn with "manganese nodules", usually about the size of an apple, which contain not just manganese but also cobalt, copper and nickel. When the law of the sea was being debated in the 1970s, these nodules aroused enormous excitement. It subsided, though, when it became clear that the UN's proposed arrangements for licensing mining in the deep sea would involve the sharing of technical information with a new International Seabed Authority. America, whose companies were leaders in the field, did not relish parting with its technical secrets and turned against the UN's planned convention, which it has yet to ratify. Investment in deep-sea mineral extraction came to a halt.

Most Americans dropped their opposition to the convention after its provisions on deep-sea mining were changed in 1994. Even George Bush junior eventually came round to it and American ratification now seems only a matter of time. The United States, however, was not the only obstacle to digging and dredging in the deep. Gathering the nodules was, and is, technically difficult, chiefly because most of them lie in 4km of water, and it was not popular with environmentalists, either, since the necessary dredging stirs up quantities of sediment that kills everything nearby.

The economics of mining has changed, though. Industrial commodity prices, despite recent falls, are much higher than in the 1970s, and technology has advanced. That means it may now become profitable to exploit the manganese crusts and other minerals recently discovered. Several countries certainly hope so. In the past five years China, France, Germany, India, Japan, Russia, South Korea and a consortium of east European countries have all been awarded licences by the International Seabed Authority to explore mining possibilities on the deep-ocean seabed, and a Canadian company, Nautilus Minerals, hopes next

year to be the first deep-water mining company to start production. Its plan is to bring up ore containing copper and gold from the bottom of the Bismarck Sea north of Papua New Guinea, using technology developed by the offshore-oil industry.

That industry, with its own purposes in mind, is also keening to move into deeper waters, especially in the Arctic. Rising temperatures and melting ice make Arctic extraction easier, and American government scientists now believe that 90 billion barrels of oil and vast amounts of natural gas still lie beneath the Arctic. Nearly 85% of these deposits, they think, are offshore.

The thought of Arctic oil has quickened more than pulses. Canada is establishing a year-round Arctic presence on land and sea as well as in the air. Denmark is trying to prove that a detached part of the underwater Lomonosov ridge is an extension of Greenland, which is Danish territory. And Russia has staked a claim by sending a submersible to plant a corrosion-resistant titanium flag some 4km below the North Pole.

Inestimable stones, unvalu'd jewels

The covetousness goes beyond metals and oil. Two newish discoveries in particular tickle commercial fancies. One is gas hydrates—white, sorbet-like compounds that usually consist of methane molecules trapped in a cage of water. They were first found in permafrost in the 1960s and then, in the 1970s, on the slopes of continental shelves deep beneath the ocean floor.

Many scientists believe these hydrates together contain more energy than all the known deposits of fossil fuels, a possibility that makes them highly attractive to countries such as Japan and India, with little or no oil or gas. The oil companies, though, are cautious. Hydrates occur naturally in pipelines, and are unpopular because they clog the flow of oil. Extracting them would be intensely difficult. And methane, though it burns more cleanly than coal, absorbs a wider range of wavelengths of the Earth's outgoing radiation than CO_2. It therefore traps more heat, making it an even more pernicious greenhouse gas.

The second discovery is the strange variety of deep-sea life that is increasingly coming to light—quite literally. Some of it is to be found near "black smokers", vents that occur along ridges in the middle of the oceans where two plates are spreading apart. In such places dissolved hydrogen sulphide comes out of the rock and suddenly cools, causing minerals to condense and create plumes of "smoke". The first of these vents was discovered in 1977 on the Galapagos ridge by scientists in the Woods Hole Oceanographic Institution's submersible, *Alvin*. A more recent discovery, on the South-West Indian Ocean ridge last year, was made by China's research vessel, *Dayang 1*. Life at the dark depths where these vents occur gets its food and energy from the Earth, not from the sun—and much of it is strange. Here can be found sulphur-eating bacteria, scale worms that thrive in hot water at the tips of the smokers, and shrimps—blind, though they have eyes on the back of their heads—that can mend their DNA even after it has been highly irradiated. And below the crust in these volcanic parts micro-organisms have been discovered that may offer clues to the origins of life.

Much of the interest, though, comes from medical researchers who hope the strange properties of some of these creatures may lead to new anti-carcinogens or tumour-reducing drugs. Some more familiar forms of life, found in much shallower waters, also hold out the promise of new medicines. Sea cucumbers, for instance, are already being harvested and minced up by French and American pharmaceutical companies. Chemicals isolated from soft coral off Western Australia may help fight breast and ovarian cancers.

Old hands cast doubt on theories that huge quantities of minerals lie below the seabed. Big seams are needed if money is to be made. But most of the compounds found so far, say the doubters, come from volcanic deposits. Dissolved minerals—copper, gold, silver and so on—typically rise up with volcanic activity and then become sea-floor deposits; the surface copper in Cyprus, a volcanic island that was once below the waves, is an example. William Ryan, of Columbia University's Lamont-Doherty Earth Observatory outside New York, says there are fewer nodules than people generally believe and most of them are in very deep water. He adds that everything done at sea is becoming more expensive, so the economics of mining may not have improved much. He is equally sceptical about methane hydrates, arguing that the energy they contain is less than the energy needed to release and secure it.

Such cautions may be wise, but they will not stop the scramble. Too many mysteries of the deep remain unexplained and, anyway, no country turns down a chance to enlarge its sovereignty.

Economist.com SPECIAL REPORTS

The curse of carbon

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From The Economist print edition

A meltdown tinged with acid

I tell you naught for your comfort,
Yea, naught for your desire,
Save that the sky grows darker yet
And the sea rises higher.
G.K. Chesterton

EVEN if they do not live in the Maldives or Bangladesh, most people can appreciate the seriousness of rising sea levels. Much harder to grasp are most of the other consequences of global warming, and especially of the build-up of carbon dioxide in the atmosphere.

About a third of this CO_2 ends up in the sea. Over geological time, virtually all the carbon released into the atmosphere has been taken out of it by living organisms and found its way into sediments, most of them in the sea (some has then gone into petroleum deposits). A vast amount of carbon is swilling about or sitting in the deep sea below 200 metres, where a biological pump pushes it round in such a way that any carbon atom entering the depths from the atmosphere will return to the surface every 500-1,200 years.

The pump is driven by phytoplankton, the tiny plants that constantly convert sunlight and CO_2 into more plants, half of which die or are eaten by zooplankton. In the top 200 metres or so of the sea, some dead or faecal matter is turned back into CO_2 by microbes and may then re-enter the atmosphere. Any that sinks below the sunlit top layers will hang around in the depths for a long time, thanks to the colder temperature and greater density of the deep water. Eventually, currents and upwelling from the depths bring the dead stuff back to the top, where it stimulates more phytoplankton growth. For the duration of its cycle, though, this deep-sea carbon is locked away. In the short term it does not affect the concentration of CO_2 in the atmosphere.

Short-term changes in that concentration are mostly affected by the carbon in the atmosphere itself, the carbon dissolved in the upper layers of the sea and the carbon in plants and animals on land. Until the Industrial Revolution, the exchanges among the three were more or less in equilibrium. But now the concentration of carbon dioxide in the atmosphere is higher than it has been for at least 365,000 years (some say 650,000), even though about half the CO_2 produced in the past 200 years by burning fossil fuels and making cement has gone into the sea. As a result, the sea is 30% more acidic than it would have been without man’s new activities.

Even more alarmingly, the processes now set in train cannot easily be stopped, let alone reversed. Though CO_2 in the surface layer is readily exchanged with the atmosphere, the mixing of that water with deeper layers takes several hundred years, meaning the acidification at the top is there for the duration. It is, said Britain’s Royal Society in 2005, “essentially irreversible” during the lifetime of anyone alive.

Exactly what this means for life in the sea no one quite knows. One fear is that the increasing acidity will kill off pteropods and similar creatures with calcium-carbonate shells or skeletons. A recent study found the seas acidifying ten times faster than previously believed, with disturbing effects on mussels, oysters and other animals living in coastal regions. But big fish in deeper waters might also be affected if entire species were lost at the bottom of the food web. Another worry is that the eggs and larvae of some fish may be unable to survive in more acidic water, and that creatures like squid which need a lot of oxygen will also die out. Any shortening of the food chain is likely to destabilise entire ecosystems, possibly leading to new ones in which just one or two species, such as jellyfish, predominate.

NaturePL

Heading for the exit

A different set of concerns surrounds coral. Coral reefs, which have evolved over 400m years, are the biggest living structures on Earth and the richest in terms of marine biodiversity. A quarter of all sea species spend at least a part of their life in a reef—and many reefs are in cold or temperate waters. Their bounty already puts them at risk from fishermen. The Darwin Mounds to the north-west of Scotland, for instance, which support extensive colonies of cold-water coral, were smashed up soon after their discovery in 1998 by trawlermen eager to get at the fish. Similar damage has been done to reefs off Norway.

Yet coral is also at risk from acidification, and more so in colder waters even than in tropical ones, since colder seas tend to be more acidic. If the seas continue to become less alkaline at the current rate, the time will soon come when reefs will start to lose coral faster through erosion than they gain it through calcification. How soon? Some scientists think it could be in 60 or 70 years. Many fear that half the world's coral will be gone by 2030.

The other aspect of man-made carbon-dioxide production that affects the sea is global warming itself. Though the oceans heat up more slowly than the land, higher temperatures are already causing them to expand. Indeed, expansion is now raising sea levels by at least 10-20cm per century (they rose about 30cm in the 20th century). The melting of glaciers, ice caps and polar ice sheets on land, however, has the potential to account for much more. The Arctic has lost over 40% of its year-round ice since 1985, 14% in 2004-05 alone. This will not do much directly to raise sea levels, because most Arctic ice is floating, but it suggests that the melting is speeding up, and that is confirmed by the flow of the Jakobshavn glacier in Greenland, which doubled in speed between 1997 and 2003.

From Greenland's icy mountains

Most scientists think East Antarctica is stable, because it is high and dry, meaning a temperature rise of a few degrees will cause no melting. But if even half of the West Antarctic and Greenland ice sheets were to melt, sea levels would rise by six or seven metres, flooding many of the world's big cities, and the outlook is discouraging. Over the past 50 years the fastest rise in temperatures on Earth has been on the Antarctic Peninsula, in the west of the continent; this has been matched only in Alaska. And last year the Wilkins shelf, a huge plate of floating ice attached to the peninsula, started to break up, losing some 2,000 sq km in six months. The eighth ice-shelf collapse on the peninsula in 30 years, it is further evidence of an acceleration in warming. West Antarctica as a whole lost ice about 75% faster in 2006 than in 1996.

The melting of an ice shelf, which is merely a floating projection into the sea, would not affect sea levels. It would take the melting of an ice sheet to do that. Yet that is just what is happening in Greenland, whose relatively warm and wet sheet is on course to melt completely, bringing the prospect of a sea-level rise of perhaps seven metres. The big question is when, and that is unanswered. The Intergovernmental Panel on Climate Change in 2007 forecast a rise of 18-59cm this century. Many think this much too conservative.

When sea ice melts, the newly exposed dark water absorbs radiation rather than reflecting it, as snow or ice would. That raises the temperature of the sea, making the ice melt even faster. Something similar happens when terrestrial ice melts. Either it exposes land, which then warms up; or it forms ponds (or lakes or streams) of meltwater on the surface of the ice, which absorb energy and melt more ice. Both mean a loss of heat-reflecting ice and a net addition to global warming.

One related concern seems to have abated, though. For some time scientists were puzzled by the speed with which meltwater could disappear through the ice as it drained down natural pipes known as moulins. A meltwater lake on the Greenland ice sheet that contained 44 billion litres and covered 5.7 sq km gurgled away within 24 hours in 2006. Most of it went in 90 minutes, at a rate that at its maximum was faster than the average flow of the Niagara Falls. The fear was that when this quantity of water hit the bottom, it would detach the ice from the bed on which it rested and lubricate its passage to the sea.

Not so, it seems, to judge by a study published last year by Sarah Das, of Woods Hole. The meltwater did indeed cut through nearly 1km of ice, as some had hypothesised and others had doubted, forcing its way down thanks to its greater weight and density. But it did not destabilise the ice sheet or provide a new reason to worry about rising sea levels.

Even if it meant nothing for sea levels, though, a melting Arctic (see video-graphic) still means a lot for the ecology of the region. Polar bears, for example, are becoming endangered, as the disappearance of ice obliges them to swim farther and farther to catch seals, their main prey. In contrast, some humans are delighted by the new warmth. Greenlanders can now grow potatoes, miners are eyeing newly accessible mineral reserves and trawlermen can more easily pursue fish into northern waters.

Most excited of all, though, are oil-drillers and shipping companies. Shell Oil, frustrated last year by lawsuits filed by environmentalists and Alaskan natives, is eager to start exploiting its leases in the Beaufort Sea. Russian companies such as Gazprom are already developing fields in the Barents Sea. And Russia, like America, thinks the Arctic holds lots more oil and gas. It believes that the territory it considers to be rightfully its own—it lodged a claim for 1.2m sq km of seabed in 2001—holds 586 billion barrels of oil, more than twice Saudi Arabia's proven reserves. In this it may be wrong, but there is no doubt that fossil fuel, the very agent that is destroying the Arctic, will become far more available as a result of the destruction it wreaks. In all, the Arctic may hold 20-30% of the world's undiscovered oil

reserves.

Soon shipping will join the polluters of the north. A new seaway through an unfrozen Arctic Ocean would cut the journey from Rotterdam to Yokohama via the Suez canal by 4,700 miles, a saving of 42%. From Rotterdam to Seattle via the Panama canal, the saving would be 2,000 miles, over 20%. Ships too big to go through the Panama canal would save even more.

Would the financial savings be commensurate? If it cost no more to sail through the Arctic than anywhere else, yes: the savings per voyage would be huge. But even if the ice melts as fast as shippers hope (and scientists fear), navigation is likely to demand strengthened hulls, higher insurance and extra training for crews, all adding to the costs.

Everything depends on the speed at which the ice disappears. Computer models have been predicting that the Arctic will not be ice-free, even for a short time in late summer, until 2040, and at present only icebreakers and the occasional lone yachtsman are getting through. But some people believe change is coming so fast that the northern seas will open up much earlier than expected. They may be right.

If so, it will be seen as a harbinger of a another horror: the prospect of a shutdown of the North Atlantic conveyor. This is the current of water that takes enormous amounts of heat—about as much as would be generated by a million nuclear power plants—from the tropics and carries it to eastern North America and western Europe. The fear is that melting ice, along with increased snow and rain, could reduce the density and salinity of the top layers of the sea, making them more buoyant. At present, the conveyor depends on surface water sinking and travelling towards the equator, there to rise again and bring warmth back to the north (see map in the introduction). If this current stopped, the average temperature in Europe might fall by five to ten degrees Celsius.

More abused than used

Dec 30th 2008
From The Economist print edition

But the sea can be harnessed for energy, and to store carbon

Sad were my thoughts that anchor'd silently
Of the dead waters of that passionless sea
Unstirr'd by any touch of living breath:
Silence hung over it, and drowsy Death,
Like a gorged seabird, slept with folded wings
On crowded carcasses—sad passive things
Thomas Hood

OF ALL the blights afflicting the sea, carbon dioxide is just one. Man has used the oceans as a dustbin for far too long.

The bin would be even fuller and fouler had the London dumping convention not been signed in 1972, but the sea is still hideously polluted. Over 60m litres of oil run off America's streets and via rivers and drains find their way into the oceans each year. Through sewage and medical waste, antibiotics and hormones enter the systems of seabirds and marine mammals. Mercury and other metals turn up in tuna, orange roughy, seals, polar bears and other long-lived animals.

So does radioactive effluent, whether from Sellafield, a nuclear reprocessing plant on the west coast of England, or the scrapyards of Russia: between 1958 and 1992, the Arctic Ocean was used by the Soviet Union, or its Russian successor, as the resting-place for 18 unwanted nuclear reactors, several still containing their nuclear fuel. All over the world, oil spills regularly contaminate coasts.

More alarming still is the plague of plastic. The UN Environment Programme reckoned in 2006 that every square kilometre of sea held nearly 18,000 pieces of floating plastic. Much of it was, and is, in the central Pacific, where scientists believe as much as 100m tonnes of plastic jetsam are suspended in two separate gyres of garbage over an area twice the size of the United States.

About 90% of the plastic in the sea has been carried there by wind or water from land. It takes decades to decompose or sink. Turtles, seals and birds inadvertently eat the stuff, and not just in the Pacific. A Dutch study of 560 fulmars picked up dead in countries around the North Sea found 19 out of 20 had plastic in their stomachs—an average of 44 pieces in each. Moreover, when plastic breaks up it attracts toxins, which become concentrated in barnacles and other tiny organisms and thus enter the marine food chain.

Some action is being taken. Volunteers work to catch at least some of the plastic pellets—hundreds of millions each week—that are washed out to sea by the Los Angeles river. Oil spills should become rarer after next year, when all single-hulled ships will be banned.

Efforts are also being made to prevent the spread of invasive species through the taking on and discharging of ships' ballast water. The worry is that creatures like the Chinese mitten crabs that have been introduced to San Francisco Bay (along with 175 other alien species), for instance, may spread to other places, overwhelming the native varieties. A "global ballast partnership" hopes to reduce this risk. Similarly, a UN convention may soon ban the use of tributyltin, a highly toxic chemical once added to the paint used on almost all ships' hulls, in order to kill algae and barnacles.

Shipping itself is a huge cause of pollution. The International Maritime Organisation said last year that sea transport accounted for only 2.7% of total emissions in 2007. But leaks last year from an unpublished report by the Intergovernmental Panel on Climate Change put the figure at nearly 4.5%, about twice as much as the share of aviation. And, though shipping is now in decline, by 2020 emissions are expected to rise by 30%. Since ships burn bunker oil, the dirtiest of fuels, that means not just more CO_2 but also more "particulate matter", which, according to a controversial paper published in 2007, is already responsible each year for about 60,000 deaths from chest and lung diseases, including cancer.

Most of these occur near coastlines in Europe, East and South Asia.

Various measures could reduce this pollution. Some ships are already going slower, to save fuel; some are also burning cleaner, low-sulphur oil; some journeys are becoming unnecessary, as rising costs make it unprofitable to send food, for instance, from America to be processed in Asia and then carried back to where it came from. And shipping could, and should, be included in all carbon-trading schemes, notably the EU's.

In principle, it should also be possible with concerted action to arrest, if not reverse, another growing problem, the rise of slime. This is a term coined by Jeremy Jackson of the Scripps Institution of Oceanography at the University of California in San Diego, here used as shorthand for the increasingly frequent appearance of dead zones, red tides and jellyfish. All these seem to have occurred naturally for centuries, and still do. Red tides, for example, regularly form off the Cape coast of South Africa, fed by nutrients brought up from the deep, and off Kerguelen island in the Southern Ocean. Nowadays, though, most are associated with a combination of phenomena including overfishing, warmer waters and, often, the washing into the sea of farm fertilisers and sewage.

In shallow coastal waters, most of the fish tend nowadays to have been caught. As the larger species disappear, so the smaller ones thrive. These smaller organisms are also stimulated by nitrogen and phosphorous nutrients running off the land. The upshot is an explosion of growth among phytoplankton and other algae, some of which die, sink to the bottom and decompose, combining with dissolved oxygen as they rot. Warmer conditions, and sometimes the loss of mangroves and marshes, which once acted as filters, encourage the growth of bacteria in these oxygen-depleted waters.

Bluegreen

Floundering towards the primeval ooze

The result may be a sludge-like soup, apparently lifeless—hence the name dead zones—but in truth teeming with simple, and often toxic, organisms. These may be primitive bacteria whose close relations are known to have thrived billions of years ago. Or they may be algae which colour the sea green, like the carpet of weed in Qingdao that nearly brought the sailing to a halt in last year's Olympic games. Sometimes they colour it red, but this is less the wine-dark sea of Homeric fame than the red-brown waters of Florida's Gulf coast—or Chesapeake Bay, or the Adriatic, or Hiroshima Bay, or the inlets of New South Wales. In such places red tides tend to form, some producing toxins that get into the food chain through shellfish and rise up to kill bigger fish (if there are any left), birds and even seals and manatees. Occasionally, the poisons waft ashore to fill clinics with coughing patients.

In other places, such as Australia, Spain and Namibia, the plague brings a different form of simple, invertebrate life, the jellyfish. As other fish disappear, these plankton-eating organisms move in, to the despair of swimmers and the consternation of fishermen. Some trawlermen, however, have adapted, abandoning more conventional catches in favour of jellies. Nearly 500,000 tonnes of these creatures were caught in 2006, most of them in Asia and destined to be eaten in soup or salads by Chinese or Japanese.

Red tides and similar blights do not necessarily last long, nor do they cover much of the surface of the sea. But they are increasing in both size and number: dead zones have now been reported in more than 400 areas. And increasingly they affect not only estuaries and inlets, but also continental seas such as the Baltic, the Kattegat, the Black and East China Seas and the Gulf of Mexico. All of these, point out Robert Diaz and Rutger Rosenberg, authors of a report last August in *Science*, are traditional fishing grounds.

The spread is exponential, they say. The direction is just as worrying. The winners in these newly polluted, over-exploited, oxygen-starved seas are simple, primitive forms of life, whereas the losers are the ones that have taken aeons to develop. Algae, bacteria and jellyfish thrive while fish, coral and sea lions die. It is, wrote Kenneth Weiss of the *Los Angeles Times* in 2006, as if "evolution is running in reverse". And though a few ideas have been put forward to reduce fertiliser runoffs—a cap-and-trade system for nitrogen polluters, similar to those for European carbon polluters, for instance—it is hard to see a solution. Not enough is known about the causes of the problems, and too many of the agents are far removed from the scene of the event.

Realms of ocean, fields of air

Have all marine resources been abused or exploited to the point where the sea can do nothing more for man? No. It still has much to offer, especially in helping to solve one of the very problems from which it suffers itself, CO_2-induced global warming.

The most beguiling idea is to speed up the rate at which carbon is taken out of the atmosphere and into the sea: increase the concentration of CO_2 in the oceans by 0.5% and the concentration in the atmosphere returns to pre-industrial levels. The trouble is the sea then becomes an acid bath. Even so, some people think it can still help.

Not quite what Homer meant

One popular idea is to use iron to fertilise the sea, causing the same explosions of phytoplankton that often precede dead zones and red tides. If this were to happen in the deep sea, the carbon absorbed by the plankton through photosynthesis would descend to Davy Jones's locker for several hundred years. It was this thought that caused John Martin, once head of the Moss Landing Marine Laboratories in California, to declare, "Give me half a tanker of iron, and I'll give you an ice age." Laboratory experiments suggested that every tonne of iron sprinkled on the sea would remove 30,000-110,000 tonnes of CO_2 from the air.

Several companies are now trying to put this into practice and thus make money by selling carbon credits. One trouble, though, is that very little of the carbon drawn into the sea by plankton sinks far enough down before it is eaten by other plankton and recycled into the atmosphere. Another drawback is that the side-effects are largely unknown and potentially horrible if, for example, a "weed" species were to take advantage of a changed ecosystem. At best this scheme offers a small and temporary benefit.

Two other ideas are more promising. One is to capture CO_2 and store it under the seabed. David Goldberg and Taro Takahashi of Lamont-Doherty believe that nearly 150 years' worth of the United States' CO_2 production could be injected into 78,000 sq km of subsea rock off western North America. The basalt and the CO_2 would react with each other, reducing the scope for leaks, which would be further diminished by the blanket of sediment that covers the ocean floor in that area.

Though it is harder to pump CO_2 into saline aquifers or disused oil wells in the sea than on land, the idea is still attractive, and certainly less risky than another proposal, which is simply to dump the captured CO_2 on the floor of the deep ocean, where pressure and temperature would keep it liquid and well away from the atmosphere. Currents, however, might stir it more than expected, and it would react with the water above it. This might lead to the formation of hydrates, which could be unstable if disturbed, and it might also lead to a lake of CO_2 on the ocean floor which would be acidic at the margins.

An altogether different, and better, idea is to use the sea to generate green, CO_2-free energy. The sea offers three ways of doing this. The winds—whose energy derives from the sun, via the convection of air currents—are increasingly harnessed by windmills both on- and offshore. The advantage of having them at sea is that they can occupy unused open space and ruin fewer views than on land. But wind power is uncertain, sometimes providing too much electricity and sometimes too little.

That is true of wave power, too, which also gets it energy from the sun, in this instance via the winds.

The first commercial wave-power farm started producing electricity last year off Aguçadoura in northern Portugal, using one of several available designs, this one developed in Scotland. Its first aim is to provide enough power for 1,500 homes, and ultimately nine or ten times as many. Rival technologies are being developed in Canada, the United States and elsewhere, and some are operating, for example, off Hawaii and the west of Scotland.

A better bet, at least in terms of continuity of production, is tidal power, whose energy comes from the gravitational pull of the sun and moon. A few tidal projects, such as the 42-year-old barrage at Rance in France, operate like traditional hydro schemes, in which tidal water simply rushes through turbines. Most others use the principle of an underwater windmill whose rotors are turned by the tide. The leading test centre is in Orkney, off north-east Scotland, where the winds blow and the tides race as in few other places.

One trouble with tidal power is the difficulty of servicing underwater installations. Another is ensuring that they do not get carried away in storms: Orkney's climate may yet prove too wild. And, like all marine energy, tidal power may be easiest to produce in places where it is least needed—far away from centres of population, where connections to the national grid would be expensive. New York, though, could be an exception: a tidal scheme is now being tested in the East River. South Korea's Sihwa Lake tidal plant, planned to open this year, will also serve a neighbouring city, Ansan, with 690,000 people.

Plenty more fish in the sea?

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From The Economist print edition

No longer: technology has made the elusive and inexhaustible into easy prey

Gaze upon the rolling deep

(Fish is plentiful and cheap)
As the sea my love is deep!
Said the Yonghy-Bonghy-Bó.
Edward Lear

THE sea is still deep, and fish may still be relatively cheap, but it costs much more than it used to. And it is far from plentiful.

This has become a commonplace. People have long been told that the North Sea is fished out and that the waters of the North Atlantic closest to Europe now produce only a fraction of the bounty of the 1940s. Books, articles and reports regularly record the decline. In 2004, for instance, a British royal commission described in bleak detail the collapse of north-east Atlantic cod, of North Sea hake and plaice, and of other species discarded as "bycatch" and thrown back dead into the sea in huge numbers.

Americans have heard similar stories. An authoritative report from the Pew Oceans Commission told them in 2003 that, of the American fish populations that had been assessed, 30% were being overfished, many of them unsustainably. Books like "Cod", by Mark Kurlansky, have eloquently described how the fishing grounds that stretch from the shallow waters off Newfoundland south to Georges Bank, once considered the richest in the world, have come to be commercially moribund. Governments, though slow to respond, have not been wholly blind to the changes. Canada's closed the Grand Banks in 1992. Fishermen themselves have seen the evidence, and not just there. In the 1970s, for instance, West Coast trawlers were landing 11,000 tonnes of bocaccio a year. In 2001, just before the fishery was closed, the catch was 214 tonnes. It will take at least 90 years, say scientists, for the stocks to recover.

And overfishing is not just a problem of northern fisheries. A paper published in *Nature* in 2003 carried 13 charts showing the catch per 100 hooks in different fisheries from the temperate Pacific to South Georgia in the southern Atlantic, and from the Gulf of Thailand to the St Pierre Bank off Labrador. Each chart displayed a similar precipitous descent in the catch from the start of industrial fishing, some time before 1960, to a virtual plateau between 1980 and 2000. "Our analysis", said the authors, Ransom Myers and Boris Worm of Dalhousie University in Canada, "suggests that the global ocean has lost more than 90% of large predatory fishes." These are the ones, cod, groupers, salmon, tuna and so on, that everyone likes to eat.

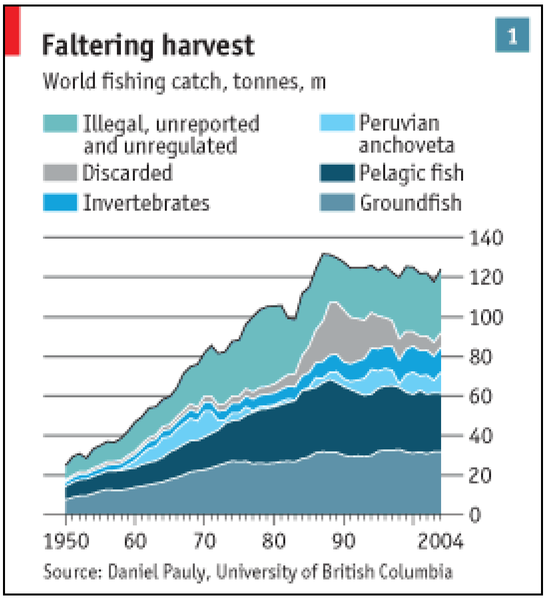
An even gloomier assessment came in an article by 14 academics in *Science* in 2006. The accelerating erosion of biodiversity, often associated with overfishing, presaged a "global collapse" to the point, in 2048, where all species currently fished would be gone, they said.

The mackerel-crowded seas?

Even many scientists who are alarmed by the evidence of overfishing find such conclusions controversial. Most non-scientists are unmoved. For a start, fish appears to be in plentiful supply. Even cod is available; over 7m tonnes of cod-family (*Gadidae*) fish are caught each year. Sushi bars have spread across the world. To cater for the aversion to red meat, and a new-found need for omega-3 fatty acids, fish dishes are on every menu, even in steak houses. Supermarkets and restaurants boast of "sustainable" supplies, and sandwiches are reassuringly labelled "dolphin-friendly", however threatened the tuna within them may be. Best of all, for the ethical consumer, fish are now farmed (see article). Salmon has become so plentiful that people weary of its delicate taste.

Moreover, fishermen themselves seem sceptical of any long-term scarcity. They clamour for bigger quotas and fewer restrictions (except on foreign competitors), and complain that the scientists are either ignorant or one step behind the new reality. Those with long memories can cite previous collapses that have been followed by recoveries. And, in truth, not all collapses are due solely to overfishing: the sudden crash of California's sardine industry 60 years ago is now thought to have been partly caused by a natural change in the sea temperature.

Plenty of figures seem to support the optimists. Despite the exploitation round its coasts, Britain, for instance, still landed 750,000 tonnes of Atlantic fish in 2006, two-thirds of what it caught in 1951; even cod is still being hauled from the north-east Atlantic, mostly by Norwegians and Russians. Some British fishing communities—Fraserburgh, for example—are in a sorry state, but others still prosper: the value of wet fish landed in Shetland, for example, rose from £21m in 1996 to £54m ($33m-99m) in 2006. Earnings from fishing in Alaska, in whose waters about half of America's catch is taken, rose from less than $800m in 2002 to nearly $1.5 billion in 2007. And for the world as a whole, the catch in 2006 was over 93m tonnes, according to the UN's Food and Agriculture Organisation, compared with just 19m in 1950 (see chart). Its value was almost $90 billion.



The main reason was that fishermen were still able to exploit their relatively new ability to find and catch their prey. Most underwater creatures had little to fear from man until 1873, when the first steam-powered whaling ships, armed with explosive harpoons, were launched. Whales were then ruthlessly pursued, several species almost to extinction, until hunting was banned in the 1980s.

The steam-powered trawler came next, in 1881. When fitted with an otter trawl, invented in 1892, it enabled fishermen to haul in six times the catch of a sailing ship. Soon came filleting machines, echo-sounders and spotter planes. Then Clarence Birdseye, an American fur-trapper turned inventor, developed a system for freezing fish. This gave the world the fish finger and launched the factory ship that sailed far from home and processed the catch from huge trawlers on the high seas.

Next came the cold war, whose main casualty may have been fish. The technology designed by America's Office of Naval Research developed to find the Soviet Union's submarines and hide NATO's was soon put to use in the pursuit of haddock, herring and every other kind of underwater prey. After that came satellites and with them global positioning systems and thermal images, enabling fishermen to find the places where warm and cold waters collide, which is where plankton flourish and fish gather. Now an array of technology—acoustic fish-finders, broad-swathe mapping of the seabed, computerised track plotters and so on—make it possible to find most fish bigger than a man's forearm.

There goes that Leviathan

The biggest ones have been the first to go. As a result, in over-exploited waters the fish tend to be smaller and younger. Among those caught in the Pacific, the average length of an English sole fell from about 34cm in the 1960s to 30cm in 2002, a Pacific barracuda from nearly 80cm in the 1950s to 65cm in 1970, a bocaccio from over 50cm in the 1970s to nearer 45cm in the 1990s. Whereas record-sized cod 2 metres long and up to 96kg (211lb) in weight were recorded in Massachusetts in the 19th century, and an average of 4.5kg per fish was common in living memory, a big cod is now a rarity in the north-west Atlantic. And when the big fish are gone, smaller varieties become the new catch. "Fishing down" the food web, as the practice is known, resulted in the average length of fish caught off the west coast of Newfoundland falling by a metre between 1957 and 2000, according to an article by Daniel Pauly and Reg Watson, of the University of British Columbia's Fisheries Centre, in *Scientific American* in July 2003.

When stocks of familiar fish are exhausted in familiar fishing grounds, man turns towards new fish in new places. Distant-water ships from such countries as Taiwan, South Korea and Russia have been ploughing far-flung oceans ever since the art of freezing fish became simple. "Klondikers", huge factory ships from eastern Europe, started to turn up in foreign waters in the 1990s. Spanish boats, following the traditions of the medieval Basques, fish all over the world. Ships from Bulgaria, China, Japan, Mexico, Poland and

Romania can all be found far from home.

Magnum Photos

Ever smaller, ever rarer

There they set about repeating what they have done in their own waters. Having caught almost all the northern bluefin tuna in the Mediterranean and many of the fish off other coasts, the countries of the European Union, for example, have negotiated rights to fish in coastal waters off west Africa. Now stocks of octopus, lobsters, tuna and other fish in this part of the Atlantic are dangerously low, contributing to the impoverishment of local fishermen. As a result, many are said to be driven to such desperate measures as eating bushmeat from endangered animals and setting sail in open boats in the hope of illegally settling in Europe.

Rich-country consumers of Senegalese shrimps or Omani lobsters are no doubt delighted with their *entrées*. Others may need a little encouragement to buy fish hitherto unknown to them. Many species are therefore renamed for the retail trade: bocaccio, a kind of rockfish, becomes Pacific red snapper, Patagonian toothfish becomes Chilean, or Australian, sea bass, and dogfish becomes rock salmon.

Creeping things innumerable

In British fish-and-chip shops pollock and coley are increasingly used in place of cod, and in American fast-food outlets Alaska pollock has become the staple. But in 2008 stocks of Alaskan pollock shrank by half, leaving what is believed to be the world's largest food fishery poised on the brink of collapse. This could be a natural fluctuation. So could the disappearance of chinook salmon from the waters off California and Oregon last year; the population during the spawning season was 88% below its all-time high in 2003.

Most fish-watchers, however, are uneasy. They see too many signs of overfishing, and too few of recovery. One of the most recent objects of concern is a small, shrimp-like creature called krill, which is now being fished in a big way. Krill spend their days in the depths of the sea, rising at night in what they believe to be the safety of darkness to snack on phytoplankton. In fact, they are likely to be hauled out by fishermen, especially if they are in the waters of Antarctica. Krill do not end up on plates in restaurants, except perhaps in Japan or Russia, but they are increasingly in demand for their fatty acids, for their enzymes (used in medicine), for feeding to farmed fish, especially to give the flesh of salmon a pink appearance, and for use as fish meal. And now a technique has been developed that enables trawlermen to process them at sea before their enzymes decompose. This means ships can stay longer away from port and multiply the size of their annual catch many times.

What are the wild waves saying?

No one thinks krill are yet endangered, but no one fully understands them. It is known, however, that many whales and seals and penguins live on them. And it is known that the plankton they eat cling to the underside of packed ice, ice that may start melting as temperatures rise. The fear is that devastating the krill population will set in train a series of changes that will affect other creatures.

This is, after all, what is happening in other places, though usually the changes start at the apex of the

food web. Typically, this is a fish-eat-fish affair, with vegetarians like krill taking their place at the bottom (phytoplankton are plants, whereas zooplankton are animals). Thus the relentless hunting of big sharks off the United States' Atlantic coast has rendered them unable to "perform their ecosystem role as top predators", in the words of Julia Baum of Dalhousie University. The upshot is a huge increase in the numbers of their prey, notably ray, skate and smaller sharks. Cownose ray, which may grow to be over a metre in width, are increasing by about 8% a year. With some 40m of them now looking for food off the East Coast, the shellfish they eat, such as scallops, oysters and clams, have been devastated.

One lesson here is that no species should be fished to the point where the ecosystem is unbalanced. That conclusion hardly requires the fish-fed brain of Jeeves. Another is that, to maintain a balance, big "apex" fish may be as important as small. Many fish take years before they are mature enough to spawn: cod, three or four, sturgeon 20, orange roughy 32. And they may be long-lived: cod can survive to 30, if they are lucky, and sturgeon to 100. Kill the fish at the top and you may get an explosion of smaller ones below, gobbling up much more food than would be eaten by a few big fish of the same total weight. And big fish provide more and better-quality fry. Take the big and leave the young, a common principle of fisheries managers eager to rebuild stocks, may therefore be a mistake. If so, it is not their only one.

Come, friends, and plough the sea

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But make sure farmed fish are veggies

“Will you walk a little faster?” said a

whiting to a snail,
“There's a porpoise close behind us, and
he's treading on my tail.”
Lewis Carroll

FOR most of man’s existence he has been a hunter-gatherer. These days, however, it is as a farmer that he harvests almost all his food from the land. Now he has started farming the sea, too. The world produced 48 billion tonnes of farmed fish in 2005, worth $71 billion. That was 34% of the total, a proportion that is likely to rise to half by 2010. A huge variety of fish, including cod, crayfish, bream, halibut, mussels, salmon, sea bass and sturgeon, are all farmed, providing jobs and food for people all over the world.

Unfortunately, fish farming is still in its infancy and in some places may do more harm than good. In Indonesia, Thailand, Vietnam and other parts of Asia, huge swathes of coastline have been denuded of trees to make way for ponds and pens. Many fish farms create pollution, too. Even if the water in which the fish are reared starts out fresh, the build-up of faeces and uneaten food soon makes it foul. The mix is made even nastier by the pesticides and antibiotics needed to keep the crop alive. And to cap it all, aquaculture produces CO_2 and gobbles up energy.

China, which produces about 70% of the world’s farmed fish, has been a notable offender in creating such pollution. Many of its fish have been found to contain heavy metals and toxic chemicals. But China is not alone. When salmon farming first started in Europe, the fish often became infested with lice, which then spread to wild fish. The drugs to treat them contributed to the pollution of the waters, already contaminated by the growth hormones and antibiotics added to the food.

Similar problems still arise elsewhere. Millions of fish were killed last year when a virus called infectious salmon anaemia swept through Chile’s salmon farms. Many blamed the outbreak on intensive farming. Farmed fish are also prone to parasites, one of which, *Gyrodactylus salaris*, has infected about 10% of Norway’s rivers, wiping out the wild salmon. Farmed fish also do damage when they escape, as many do. Sometimes the escaped fish interbreed with wild fish to the detriment of the local stock. Sometimes they eat the young of their rivals. Always they compete for food.

The solutions to these problems are often known, if not applied. They usually involve fewer farms, colourings and pesticides, and cleaner water. But some difficulties are more complicated.

Cod’s head for salmon’s tail

Some fish, such as groupers and eels, do not breed in captivity. They must be reared from fish caught in the wild, whose stocks are thereby reduced. And most of the fish that people like to eat are predators, which means they must themselves be fed fish. This is not an efficient business. It takes at least three kilos of fish meal to add one kilo to the weight of a farmed salmon. Most of this meal is made of ground-up anchovies, menhaden or sardines. Such forage fish already account for nearly a fifth of the world’s total annual catch; another fifth goes to feed pigs and poultry. Increasingly, as these small and middle-sized fish run out, smaller and hitherto commercially worthless ones are scooped up in fine-meshed nets. With them are quantities of tiddlers that, were they to survive, would grow into bigger, commercially valuable fish.

They might be ecologically valuable too. The striking drop in numbers round British coasts of such

seabirds as arctic terns, kittiwakes, guillemots and puffins is probably a result of the disappearance of sand eels. These have either fled north to stay cool or been fished to the last elver before being turned into salmon feed.

Perhaps the most grotesque form of fish farming is the ranching of bluefin tuna, a delicacy that may sell for as much as $860 a kilo. Bluefins are sensitive creatures that hate being cooped up so much that, if confined, they tend to throw themselves against their cages and break their necks. Australian “ranchers” have now adopted a technique that involves catching young bluefins, enveloping them in a huge net and dragging it slowly round the south seas for months while feeding them pilchards imported from west Africa.

If fish are to be farmed in ever greater numbers, most had better be plant-eaters. Even better, from an environmental point of view, are molluscs such as mussels, clams and oysters. These need no feeding, thriving on plankton alone. They may even clean the water they live in. The main damage associated with farming shellfish is caused by harvesting them with dredges, which ruin the seabed. Fortunately, they can be gathered by divers.

Grabbing it all

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From The Economist print edition

In most places fisheries policies have failed completely

With friends like these, who

needs anemones?
"Finding Nemo"

THE politicians who make fisheries policy may sometimes be excused if they are confused. Knowledge is incomplete, and natural systems are not necessarily stable. Paradoxes and surprises abound.

An abundance of fish, for example, is not always a sign of health in a fishery: the profusion of one species may simply be a temporary consequence of the depletion of its predators. On the other hand, a profusion of stressed, smaller fish may actually be a sign of a balanced ecosystem.

This is suggested by observation of pristine coral reefs in the middle of the Pacific. Researchers from Scripps who have looked at those around Palmyra, an atoll some 1,600km south of Hawaii whose marine environment is largely untouched by man, have been surprised by the large numbers of such predator fish as sharks and groupers; in fact the predators seem to outnumber the prey. For Stuart Sandin, one of the researchers, the profusion was a puzzle. What are these big fish feeding on?

The answer is smaller fish. But those round Palmyra are not merely smaller, they are smaller than they would be if they were not hunted. In other words, in a state of nature, for that is pretty much what Palmyra is, the apex fishes' prey seems to be in a permanently stressed condition. Yet the prey can maintain their numbers by growing fast, reproducing fast and eating not just the next victim below them in the food web but also algae. And these algae would soon take over and destroy the reef if they were not being eaten by fish. So stressed middle-sized fish make for both happy coral and happy predators—in short, a healthy and highly productive reef. It will remain so over time, even recovering from shocks like the bleaching Palmyra experienced in 1998, if it is not unduly disturbed.

One lesson therefore is to avoid unbalancing the marine environment. The other is to take a long-term view. Neither of these comes readily to politicians. Unless the briny is lapping at the door, which generally takes a hurricane, politicians give little thought to the sea. Their concerns start and end with fishermen, who in most rich countries are few in number but well organised as lobbyists. And though most fishermen have a strong interest in the long-term productivity of the sea, they also have a short-term interest in maximising their incomes and paying for the very expensive ships and equipment with which they plunder the deep.

Unplumb'd, salt, estranging sea

Most policymakers' first response to overfishing, if not to deny it, has been to extend their country's territorial waters. The "free seas" advocated by Hugo Grotius, a Dutch jurist, in 1609 never in practice extended quite to the high-tide mark. But from the 18th century to the mid-20th, territorial waters, within which foreigners had no rights except that of "innocent" passage, ended three miles from shore.

In 1945, though, the United States unilaterally claimed jurisdiction over the natural resources of its continental shelf. Other countries followed suit, and some started to extend their territorial waters to 12 miles. Chile and Peru soon pushed their limits to 200, and other Latin American and African countries were not far behind. By 1958, Iceland, whose fishing catches were already diminishing, extended its limit to 12 miles too, and precipitated the first of three "cod wars" with Britain. Claims were everywhere being asserted, contested and copied. Order was needed.

Turtles, dolphins, albatrosses not on show

After three conferences convened by the United Nations to draw up a comprehensive law of the sea, coastal countries today have territorial waters up to 12 miles from land in which they exercise total control except for the right of innocent passage. For the next 12 miles, ie, up to 24 from the shore, they have fewer rights but may also control customs, immigration and taxation. And up to 200 miles they have an economic zone with control over various maritime activities and the right to exploit natural resources under the seabed or on it, so long as these are fixed and do not move. This is about to be extended (see article).

From the point of view of fish in coastal waters, this should have been good news: instead of belonging to everyone, ie, no one, they now have national owners with a clear interest in their preservation. As the evidence of continued overfishing shows, however, most of the owners have yet to find, or implement, the right policies.

A variety of remedies have been tried, usually in combination. Thus regulations have been issued about the size and type of fish to be caught, the mesh of nets to be used, the number of days a month that boats may go to sea, the permissible weight of their catch and so on. In some countries fishermen are offered inducements to give up fishing altogether. Those that continue are, at least in theory, subject to monitoring both at sea and in port. Large areas are sometimes closed to fishing, to allow stocks to recover. Others have been designated as marine reserves akin to national parks. And some of the technology that fishermen use to find their prey is now used by inspectors to monitor the whereabouts of the hunters themselves.

Most of these measures have helped, as the recovery of stocks in various places has shown. Striped bass and North Atlantic swordfish have returned along America’s east coast, for instance. Halibut have made a comeback in Alaska. Haddock, if not cod, have begun to recover in Georges Bank off Maine. And herring come and go off the coasts of Scotland. Those who doubt the value of government intervention have only to look at the waters off Somalia, a country that has been devoid of any government worth the name since 1991. The ensuing free-for-all has devastated the coastal stocks, ruining the livelihoods of local fishermen and encouraging them, it seems, to take up piracy instead.

But too often the recovery, if it comes, is partial or temporary. Pressure mounted to reopen Georges Bank for haddock as soon as the first signs of vigour returned, and limited fishing is now allowed. In some places, round the Channel Islands of southern California, for instance, fish cannot thrive because their habitat—in this instance, the kelp forests—has been destroyed. Elsewhere the sea mounts, the hills and mountains that rise up from the ocean floor but do not break the surface, have been ruined by smash-and-grab trawlermen. In many places the rules are simply ignored. Illegal fishing thrives, landings go unmonitored, skippers keep two sets of logbooks, officials are bribed.

Often agreements are ignored as soon as they are signed. Several countries agreed, for instance, to cut Atlantic swordfish catches in 1991. Spain and America did so, but not others: Japan’s catch rose by 70%, Portugal’s by 120% and Canada’s by 200%. France, Ireland and Italy were among the countries that continued to use large-scale drift nets on the high seas after they were banned by the UN in 1991. These nets, by definition over 2.5km long, indiscriminately scoop up enormous quantities of marine life: whales, turtles, dolphins, small fish of no commercial value, the lot.

Bycatch was not confined to drift-netting. In commercial fisheries as a whole, 25% of the catch was

discarded in the 1990s. At the same time the use of fishing lines as long as 125km, whose thousands of baited hooks attracted diving seabirds as well as their intended prey, was calculated to be killing 40,000 albatrosses a year. Nets of one kind or another meant to catch Pacific yellowfin tuna were also killing 400,000 dolphins a year.

New methods of setting nets have reduced the bycatch of dolphins but not of other species, such as billfish, turtles and sharks. In his book, "The End of the Line", Charles Clover says that, for 15,721 tons of tuna, fishermen using these dolphin-friendly methods caught 237 tons of sharks and rays and 15,500 tons of other fish.

Sharks provide a particularly unhappy example of destruction. They have long been hunted in the Mediterranean and are now close to extinction there, having been reduced to 3% of their stock 200 years ago, according to Lenfest Ocean Program, an institute based in Washington, DC. They have not been much luckier in North America. Never quite as cuddly as polar bears or as lovable as porpoises, sharks became sinister objects of hatred after the publication of Peter Benchley's bestseller, "Jaws", in 1974 and the success of the film a year later. A guilt-ridden Benchley then became a marine conservationist and a campaigner for sharks in particular, but by that time many people's latent fears of Great Whites had turned into open loathing of all sharks, even the harmless, plankton-eating basking variety.

Oh, the shark has pretty fins, dear

Still, the greater threat to sharks comes not from game fishermen but from Asian gastronomes whose idea of a treat is shark's-fin soup. For years sharks were caught chiefly for their fins; often, indeed, the fins would be cut off and the creature thrown back in the water alive, there to suffer a slow death by drowning. Nowadays, with at least 11 kinds of shark facing extinction and many more of the 400 species either vulnerable or endangered, sharks are to some extent protected. But the value of their fins, which rivals that of caviar, and the ease with which they can be hidden from inspections on a fishing-boat keep the shark in perpetual danger. Perhaps 73m sharks are killed each year for their fins, and the number is rising fast. Spain and Indonesia are among the worst culprits, according to the International Union for Conservation of Nature.

Other fish are not faring much better. Eels are fast vanishing from the Mediterranean, swordfish from the Indian Ocean. The orange roughy, a slow-growing perch now marketed as empereur, was virtually fished out in British waters soon after trawlermen set their sights on it in 1991. It seems all but doomed almost everywhere except perhaps round New Zealand. The bluefin tuna faces "impending extinction" in the west Atlantic, according to Carl Safina, of the Blue Ocean Institute in East Norwich, New York, an example, he says, of "how management can go off track if the scientific part of the process is corrupted by short-term economics and political lobbying".

All in all, the politicians charged with safeguarding the fisheries seem to be failing. Is nobody getting it right?

An Icelandic success

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A model way to catch and keep fish

We have to prove to the rest of

the world that "the fish can
sing just like a bird".
Halldor Laxness

ICELAND has not quite proved that fish can sing, but it has shown they can continue to flourish, even when hunted by their main predator, man. Central to its policy are the individual transferable quotas given to each fishing boat for each species on the basis of her average catch of that fish over a three-year period. This settles the boat's share of the total allowable catch of that fish for the entire country. The size of this total is announced each year on the basis of scientific advice from the independent Marine Research Institute.

Subject to certain conditions, quotas can be traded among boats. Bycatch must not be discarded. Instead it must be landed and recorded as part of that boat's quota. If she has exhausted her quota, she must buy one from another boat, though 20% of a quota may be carried forward a year, and 5% of the next year's quota can be claimed in advance. Gadgets carried on all vessels send electronic signals to make satellite monitoring possible at all times, and each boat is likely to go to sea with an inspector aboard twice a year. All catches are rigorously recorded as soon as they are landed at any of the country's 53 ports or by Icelandic officials abroad. So the Marine Research Institute knows exactly how much each boat is catching and where. It claims that 95% of the total is well reported.

Technology helps the fishermen, too. By looking at the Directorate of Fisheries' website they can see all landings by date and species and thus work out whether to sell their catch fresh or frozen, and whether to buy, sell or carry forward quotas. All quota changes, catches and landings are posted on the internet, enabling everybody to see what is going on. The idea is to let fishermen be guided by the market.

Boats are not restricted as to when they can fish. Limits used to be placed on the number of days per month a boat could spend at sea. That led to overfishing. Some boats now fish for only three months a year, after which their quotas are full.

A main objective is to protect spawning and young fish. Some grounds are closed during the spawning season (eg, for cod); others—nursery areas—are permanently off limits. Bottom trawlers are banned from fishing within the 12-mile limit, and inspectors can instantly close any area for a fortnight or more if they think it is being overfished. In 2007 there were 180 closures, a record, largely because of an influx of young haddock.

The system is not perfect. In Iceland, as elsewhere, fishermen and scientists can disagree, and the total allowable catch is set by a minister who sometimes yields to political pressure. Cod is far and away Iceland's most valuable fish, but its stocks are falling: the tonnage caught since the 1990s has been about 200,000 a year, compared with about 400,000 in the 1960s. The mean weight of fish caught is also dropping, which worries the research institute greatly, though the biomass of spawning stock has increased slightly since 1985.

Newcomers to the industry find it hard to buy the licences and quotas they need to start fishing. As a result, the number of boats is falling. Yet Iceland no longer suffers from overcapacity, and the catch per boat is increasing. Ownership, however, is growing more concentrated.

Most of Iceland's fish are caught within its 200-mile exclusive economic zone. Few foreign boats are allowed in these waters, and none can buy Icelanders' quotas. But Iceland has an interest in fish whose stocks may live partly within and partly outside its limits, or may migrate; and many of its boats also fish

outside their own waters, mostly in the north-east Atlantic. Three international agreements govern fishing in these seas, all managed by the North-East Atlantic Fisheries Commission, based in London. One concerns herring, signed by Iceland, Norway, Faroe, Russia and the EU. The other two, with fewer signatories, control blue whiting and mackerel. All seem to work well, though illegal fishing, mostly by ships sailing under frequently changed flags of convenience, remains a problem.

Iceland offers lessons for other countries. The essential elements of its policies are to give fishermen rights that offer a reasonable expectation of profitable long-term fishing by encouraging the conservation of stocks. The system is clear, open and fairly simple, and it is well policed. It thus enjoys the respect of fishermen. And it is based, crucially, upon scientists' assessments of stocks, not politicians' calculations of electoral advantage.

A trout in the milk

This contrasts with the common fisheries policy of the EU, whose members' 88,000 boats together catch about 5m tonnes of fish a year. This puts the EU second only to China as a fishing power. For years, the union has simultaneously discouraged and promoted fishing, even as stocks have declined. Overfishing has intensified and the overcapacity of the fleet a few years ago rose to the point where the number of boats was almost twice the number needed for a sustainable harvest. The EU has offered inducements to those who gave up fishing even as it provided subsidies for such objectives as the "modernisation" of national fleets. Modernisation aid supposedly ended in 2005, but the union's fisheries fund, which supports everything from aquaculture and sustainable development to the "adjustment" of the fleet, is set to spend €4.3 billion in 2007-13. Spain, the most voracious piscivore and the biggest recipient of aid, will get €1.13 billion.

The EU's fisheries policy has long been notorious for its destructiveness, epitomised by the practice it either mandates or encourages of chucking back dead fish that are not big enough or not valuable enough, or just the wrong sort. It is a main reason that Iceland and Norway, two countries serious about the sea, have not joined the club. Just over a year ago the EU's own Court of Auditors drew attention to some of the reasons the policy is so disastrous. The extent of cheating (by fishermen) and lying (often by national governments) was so great that no one really knew the size of the total catch. The states themselves were meant to police the system, but offenders were seldom caught and those who were usually received little or no punishment. Few countries came out well. Off the record, officials described Poland as "bad", Italy "really bad", Spain notorious for hiding fish and using illegal nets, Scotland not much better. No wonder the EU's stocks are 88% overfished, as the European Commission itself now admits.

In few EU countries is fishing economically crucial. Nowhere does it account for even 1% of GDP, and as a source of employment its importance is only local, though often that is in places where other jobs are scarce. The upshot is that fishermen exercise great weight as a lobby. The hardship of their job earns them some public sympathy, though life on today's trawlers, high-tech vessels fitted out with all mod cons, is very different from that on the boats of a few decades ago. And they can be ruthless in pressing their case, as shown by their frequent demonstrations, such as those in Brussels last June. On that occasion, the fishermen wanted subsidies for their fuel, though they already get the stuff tax-free.

Corbis

The whole country's watching

In Joe Borg, the EU does now have a fisheries commissioner who is serious about conservation, but the basic flaws in the system remain. Science is disdained. The scientists' proposals that precede the annual allocation of quotas are routinely expanded, first by the commission and then by the ministers. They often end up 50% higher than recommended, and are then usually disregarded by rapacious fishermen. As in most EU meetings, the ministers all speak for the same lobby, in this case the fishermen. No minister is present to represent the taxpayer, the consumer or the environment, let alone the fish.

Adding to the scandal is the way that Europeans, having largely destroyed their own fisheries, are now setting about those of others. The cry for subsidised fuel arises largely because European boats must

travel ever farther to find fish (as a general rule, it takes nearly half a tonne of fuel to catch one tonne of fish). Not content with the high seas, the EU now has deals to "access surplus fish resources" in the waters of about 15 small countries from Cape Verde to Micronesia and the Solomon Islands, via Madagascar and the Comoros. Pundits are dispatched regularly to lecture the locals about responsible fishing. Out to the west of the Maldives, however, to take but one example, French and Spanish boats can be seen dragging purse-seine nets up to a mile long in pursuit of tuna, and at the same time indiscriminately scooping up turtles, dolphins and other creatures, many endangered, many doomed to die.

Fishing up the moon

Europe could surely learn from Iceland, but how widely could Iceland's policies be copied? In most of the few places that enjoy a good reputation for looking after their fisheries—including Alaska, New Zealand, Norway and Namibia—fishing is economically or socially important. For Iceland it provides some 12.5% of GDP and 7% of employment. In many poor countries, however much they may depend on the seas for protein, conservation takes second place to hunger—or unwise international fishing agreements, sometimes corruptly negotiated. In some rich countries, such as Japan and Spain, demand for fish is vastly greater than local supply, encouraging fishermen to pillage the world's seas. And in many rich countries fishing communities, though hardly populous, exert concentrated lobbying power that overwhelms the diffuse interests of the majority.

In Europe, it is tempting to argue that country A will never behave responsibly in the waters of country B, and so the idea of a common policy that allows all 27 members, even landlocked ones, the right to fish in each other's seas is a recipe for devastation. Yet overfishing did not begin with the EU's common policy, and even Icelanders would overexploit their waters if not restrained.

The solution for Europe, and for other places, lies in a policy with Icelandic features: transferable quotas for all commercial species, each with a total allowable catch; strict enforcement of the rules and open access to all relevant information about landings and so on; severe punishment for malefactors, including fines, the suspension of licences, the confiscation of tackle and even imprisonment, as in Iceland. It is also essential to have good scientific information, and to respect it.

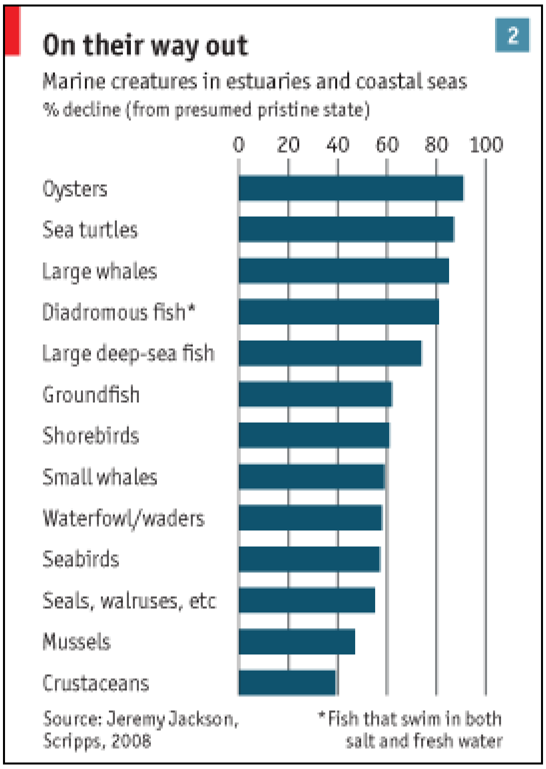
Scientists, however, do not have a monopoly of wisdom about the sea, and no system will work well if it excludes the knowledge of fishermen, ignores their economic well-being or depends on the fear of sanctions to obtain their co-operation. The trick is to persuade them that their long-term interest, which coincides with that of the fish, trumps their short-term one, which is to extract the last minnow as quickly as possible.

Property rights are nearly always crucial in this. The tragedy of the sea is the tragedy of the commons, which is that anyone with access to a common resource has an interest in over-exploiting it because if he does not, someone else will. The high seas, which remain common, though subject to the UN Convention on the Law of the Sea's injunction to conserve their "living resources", present the biggest difficulties. That is why the outlook for the big, slow-growing creatures of the deep, some of which travel long distances, is so bleak.

Most fish, however, live fairly close to land, which is where they can, if the political determination exists, be assigned to the ownership of people with an interest in both exploiting and preserving them for a very long time, if not eternity. That this is so has been shown by Christopher Costello, an economist at the University of California, Santa Barbara, and his colleagues, in a study of over 11,000 fisheries. In the 121 with ownership-share systems, he reported in *Science* last September, the rates of collapse were significantly lower than in the others. That may not reveal much about the rates of recovery, but with fewer collapses, recoveries would become less necessary. Assigning ownership rights to locals has also proved a successful way of preserving coral reefs.

Such rights can be created by government fiat in territorial waters, but George Sugihara, a scientist at Scripps who spent five years as an investment banker, believes they can, and will,

be created in a more evolutionary way. He likes to compare fisheries to banking, both parts of essentially unstable ecosystems whose workings are only partially understood. In both, there is a need to manage risk and uncertainty, especially since the periodic upheavals can be profound. In both, people are tempted to look at the parts rather than the entire ecosystem—Georges Bank in fishing, says Dr Sugihara, Deutsche Bank in banking. Yet the context is important.



Fisheries differ from banking, though, in that the markets for fish are unsophisticated, lacking both futures and options. Indeed, fish is the only widely traded commodity that has no derivatives market. Yet derivatives could be devised that would promote sustainability. Pollution credits, for example, could be traded if fishermen had transferable quotas. At present, if too many turtles are inadvertently caught in Hawaiian waters, the entire fishery is closed down. Allocate credits for the total acceptable number, and they could be traded. Forward credits could be useful in the squid business. If a fisherman sold the squid processors a proportion of his expected catch a year ahead and squid turned out to be plentiful, he would do well. If they were scarce, he could sell his contract and turn instead to sardines or anchovies. This would prevent overfishing of squid. The processors, believes Dr Sugihara, would get a clear, open market, preferable to the opaque system that operates in most places at present.

With a new market, new regulations would follow. In time, the idea would spread. Thus the price fluctuations that come with boom and bust, and encourage overfishing, would be smoothed out. The fundamental problem, Dr Sugihara argues, is the management of risk.

Saline solutions

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From The Economist print edition

The sea needs research, management, property rights—and political action

For while the tired waves, vainly breaking,

Seem here no painful inch to gain,
Far back through creeks and inlets making
Comes silent, flooding in, the main.
Arthur Hugh Clough

IS IT too late to save the sea? The solutions to some of its problems are fairly clear, even if it requires political courage to put them in place; overfishing is an example. Others are more uncertain. No one fully understands coral reefs—whether corals expel or are deserted by the single-cell algae that live within their polyps' tissues, for instance—still less what will happen to any given ecosystem if something is taken out of it. Much more research is needed in several disciplines. Many more voyages of discovery are also needed, especially in the vast expanses of the southern seas that remain relatively unexplored.

To ask whether the sea can be saved may, however, be to pose the wrong question. It is not going to disappear: rather the opposite. But that does not mean it is safe, nor even that it can strictly be saved, in the sense of returned to some pristine pre-industrial state, not at least for thousands of years. It is going to be changed, come what may, and the questions are more about how it will be changed and how marine and other life will adapt.

Again, many of the answers are unclear. Will calcium-carbonate-shelled creatures adjust or die as the ocean grows less alkaline? Will hurricanes grow more or less intense as the seas grow warmer? Will changes in the circulation of the depths warm and destabilise the hydrates on the seabed, releasing quantities of greenhouse gases from their deep-sea prisons?

Some people are inclined to dismiss such questions as alarmist. The sea is vast. It has a limitless capacity to absorb and adjust, they say. Man cannot afford to devote huge quantities of energy and money to changing his ways simply to assuage general worries about uncertain possibilities. And the exact contributions of man and nature to the changes taking place are surely unknown, even if it is accepted that man is making natural cycles more pronounced. Moreover, human ingenuity can be relied on to come to the rescue: carbon can be captured, green fuels will become economic, the sea itself can be engineered to absorb all man-made CO_2.

Well, maybe, Mr Micawber. But if not, the costs could be great. Indeed, even continuing on the current course will be expensive. In the lifetime of people already born, vast amounts will have to be spent on protection from rising sea levels. The alternative will be to abandon many large cities; Kolkata (Calcutta) is probably the most vulnerable to the incoming tides, but New York's subway system would be flooded with a rise of only 80cm. At least part of the costs of clearing up after storms like the ones that struck New Orleans and Mumbai in 2005, Bangladesh in 2007 and Myanmar in 2008 should probably be put down to warming seas.

Is it for you to ravage seas and land?

As for fishing, it needs to be better managed to take advantage of the huge opportunities for feeding a growing world. Fish are already the main animal protein for over 1 billion people and provide the livelihood for 200m people, 90% of them in poor countries. Developing states cannot afford to ruin their fisheries the way that richer countries have. In California, where sardines, mackerel and tuna were once the staples of the fishing industry, three of the five most valuable catches are no longer fish but squid, crabs and sea urchins.

If nothing else, the risks of continuing on current paths need to be recognised and then managed. It will take time to answer the big questions: why so many changes are happening so fast; whether abrupt, extreme events like cyclones and ice melts will lead to a cascade of other events; how cause and effect interact in complex ecosystems where small changes may be synergistically amplified.

AP

A taste of things to come

In the meantime some practical measures must be taken. Above all, it has become plain that the absence of ownership does not make for good management. The sea needs owners, and where that is impossible it needs international agreements for regulation, management and policing. Peru, whose anchoveta fishery is the largest in the world, is coming round to a rights-based approach to fishing, as are some African and South-East Asian governments. Countries such as China, India and South Africa are becoming increasingly interested in safeguarding marine resources. And organisations such as the Pew Oceans Commission are producing excellent policy recommendations.

But more international co-operation is needed and the EU, with 68,000km of coast and an unseemly appetite for the world’s fish, needs to take conservation much more seriously. The UN Convention on the Law of the Sea can provide a framework. America should ratify it as soon as possible, and then help mobilise a consensus to take care of the 71% of the planet covered by water. The risks of doing nothing are just too frightening.

Sources and acknowledgments

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All measurements of distances at sea in this report are in nautical miles, one of which is equal to 1.85km or 1.15 land miles.

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Offer to readers

Dec 30th 2008
From The Economist print edition

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Out of pocket

Dec 30th 2008 | PARIS
From The Economist print edition

Europe's flawed insolvency regimes will face a severe test in 2009

Illustration by David Simonds

THE word "bankrupt" originally came from Italy, deriving from *banca rotta*, or broken bench. When a medieval moneylender could not pay his debts, his bench was broken in two, sometimes over his head. Things are not quite so brutal these days, but European countries still deal with insolvent firms far more harshly than America does, and most such firms end up in liquidation. They often treat creditors badly too, meaning that neither side ends up satisfied. Observers worry that Europe will cope with the coming flood of defaults far less effectively than America, meaning a slower recovery.

Standard & Poor's (S&P), a rating agency, reckons that 60-75 European companies from its speculative-grade category could default on a total of €20 billion-25 billion ($28 billion-35 billion) of debt in each of 2009 and 2010, taking the overall default rate up as high as 11.1%, compared with 3.2% for the past 15 years. In more normal times, most distressed companies would work things out with their creditors in private restructuring processes. But a combination of high leverage and so-called "covenant-lite" loans, which mean that a firm can get into serious trouble before breaching loan conditions, is likely to mean that many more companies will end up in a formal, legal process. In addition, out-of-court restructurings usually involve lenders making new money available, which is less likely in today's market conditions.

In recent years several European countries have tried to change their systems so that companies have a better chance of survival. Britain, France, Germany, Italy and Spain have all introduced insolvency reforms designed to "rehabilitate" companies. But these are mostly untested and, in some cases, controversial. In France, for instance, where according to S&P 90% of insolvency proceedings result in liquidation, new pre-insolvency proceedings came into effect three years ago. The most important of these is the *procédure de sauvegarde*, inspired by Chapter 11 of America's bankruptcy code. It prevents the seizure of assets, allows managers to stay on and sets up creditors' committees for the first time.

But unlike Chapter 11 *sauvegarde* is still a process in which a court makes the key decisions, which creditors dislike. Some firms have been accused of using it to deny creditors their rights. In July 2008 Belvédère, a French drinks company, put itself into *sauvegarde* after breaking a loan covenant, a move that infuriated bondholders. They have gone to court to try to force Belvédère out of the procedure. In

2007 Eugene Perma, a hair-care group, filed for *sauvegarde* and thus avoided a demand for repayment from Bear Stearns, an American bank. "*Sauvegarde* has given rise to pernicious effects where debtors have filed safeguard actions in order to freeze their payments to creditors and to try to jeopardise their negotiating position," says Sandra Esquiva-Hesse, a restructuring expert at Paul Hastings, a law firm in Paris.

Default values

Bankruptcy indicators, 2008

	Recovery rate (cents on dollar)	Average time to complete (years)	Cost (% of estate)
Poland	29.8	3.0	20
France	44.7	1.9	9
Switzerland	46.8	3.0	4
Germany	52.2	1.2	8
Italy	56.6	1.8	22
Portugal	69.4	2.0	9
Spain	73.2	1.0	15
United States	76.7	1.5	7
Netherlands	82.7	1.1	4
Britain	84.2	1.0	6
Belgium	86.3	0.9	4
Denmark	86.5	1.1	4

Source: *Doing Business*, IFC/World Bank

France's insolvency process was designed to protect companies and jobs, and gives creditors little influence. As a result recovery rates are low (see table). That can be a big problem, especially for smaller firms. A customer of Frantz Electrolyse, a car-parts firm in Paris, went into insolvency in October, owing €80,000, and Jêrome Frantz, the firm's director-general, says he expects to get only about €20,000 back in two to three years' time. France's low recovery rates could put companies like his at risk in the difficult times to come, he says.

Cultural differences

America's Chapter 11 has been criticised for being too lenient on companies, but it is well tested, predictable and accepted by debtors and creditors alike. In Britain the European High Yield Association (EHYA), a lobby group for participants in the leveraged-finance market, has called for a Chapter 11-style insolvency process. About a fifth of Britain's private-sector employees work for heavily indebted companies owned by private-equity firms, notes Christopher Hall, a lawyer who sits on the EHYA's insolvency-reform committee. The social and economic consequences if they end up in liquidation would be grave, he says.

As in France, British insolvency usually results in liquidation—although in contrast to France and some other continental European countries, at least one side ends up happy: creditors can expect to get most of their money back. That said, one big difference between the British system and Chapter 11 is that in Britain suppliers have the right to terminate contracts in the event of bankruptcy, quickly disrupting a firm's activities, whereas in America counterparties have to stay as long as they receive reasonable reassurance that they will be paid.

Britain's insolvency process has other flaws, too: the collapse of Lehman Brothers in 2008 revealed big shortcomings in the way it handles investment banks. Lehman's customers found that their assets were trapped while administrators went through the bank's books. In December officials from Britain's financial-services regulator went to New York to study America's bankruptcy code, which has special provisions for investment banks.

Spain is already in the grip of a wave of defaults by property companies: Martinsa-Fadesa and Promociones Habitat, two huge developers, filed for bankruptcy in July and November respectively last year. The cases will test a new insolvency regime which took effect in September 2004. So far, says

Ignacio Pallarés, a lawyer with Latham & Watkins in Madrid, there is no sign that the new rules have had much effect on the country's 90% liquidation rate. Creditors still have little say in the process. In Italy a new regime has helped to empower creditors, says Agnès de Petigny, an insolvency specialist at S&P in Paris, but it is untested and it is unclear exactly who wields influence in the process.

Because of the stark differences in treatment of creditors in Europe—Britain, Ireland, the Netherlands and Scandinavian countries are the friendliest, with Belgium, Germany, Portugal and Switzerland in the middle and France, Italy and Spain the worst, according to S&P—the next few years are likely to see jurisdictional battles. According to European Union law, a company can request to file for bankruptcy in the country where it has its "centre of main interest", and creditors will fight to avoid the worst regimes. In countries where creditors cannot avoid a raw deal, companies' cost of capital could rise sharply.

But at least one good thing may come out of the wave of defaults about to hit Europe. It is not only legal systems that are to blame for the high level of liquidations. The stigma of insolvency is so strong, especially among family-owned firms, that owners may admit they are in trouble only when it is too late. "The more companies go into insolvency for an in-court restructuring, the more it will become normal," says Frank Grell, an insolvency partner at Latham & Watkins in Hamburg, "and the stigma will go away."

America's car industry

No end to the nightmare

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Detroit has been given a brief reprieve, but the threat of bankruptcy still looms

THE sense of relief in Detroit that greeted the $17.4 billion federal lifeline thrown by President Bush to General Motors (GM) and Chrysler just before Christmas is unlikely to last long. The terms of the bridging loans amount to a gun at the heads of the two carmakers and their stakeholders. Unless they use the next three months to negotiate a viable way forward, the loans will be called in at the end of March—and bankruptcy will follow.

In effect, the deal announced on December 19th is just one step short of the bankruptcy the carmakers have long insisted is not an option. "If restructuring cannot be accomplished outside of bankruptcy, the loans will provide time for the companies to make the legal and financial preparations necessary for an orderly Chapter 11 process that offers a better prospect of long-term success," Mr Bush said. Dealers, bondholders, suppliers, unions and retirees are all going to have to make sacrifices, and with a speed and purpose that has hitherto been lacking.

Dealers must face the fact that GM needs to cut their numbers and slim its bloated brand portfolio. In the past, they have used state franchise laws to make any such action prohibitively expensive. Another priority is to convert around 70% of GM's outstanding debt into equity. Creditors will have to ask themselves whether that is their best option, given that bankruptcy would wipe out the value of their new shares. Suppliers, already hard hit by the collapse in car production, must decide whether to grant easier payment terms that will worsen their own cash positions.

But the main focus of attention is bound to be the United Auto Workers union, which is loathed not just by those Senate Republicans whose refusal to vote for a bail-out bill forced Mr Bush to act, but by many ordinary Americans in less well-paid, less secure employment. At the very least, the union will have to advance the package of concessions it negotiated in 2007 to bring wages and benefits into line with those at foreign-owned "transplant" factories by the end of 2010. Even that may not be enough, since the terms apply only to new recruits, not existing workers.

Union leaders have signalled a willingness to give ground, but if they give too much they may not be able to win their members' backing. Many workers feel unfairly picked on, and others may hope for a better deal when there are bigger Democratic majorities in Congress and Barack Obama is in the White House. That could prove a fatal miscalculation. The incoming administration was almost certainly consulted about Mr Bush's rescue, and Mr Obama has already made it clear that he will not be a soft touch for Detroit.

Even if a new deal for the carmakers is put on the table in March, they may not like it any better. Many Democrats are determined to show their green credentials by forcing Detroit to build more hybrid and electric vehicles as a condition for federal aid—whether or not there is a market for them. Toyota's decision in December to postpone indefinitely production of its Prius hybrid at a new factory in Mississippi ought to be a reality check for politicians who want to tell carmakers what they should build, but will probably not be.

The biggest reason why Detroit's anguish is far from over is that there is no sign of any easing of the conditions that precipitated the crisis. PricewaterhouseCoopers, a consulting firm, predicts that light-vehicle sales in North America for 2009 will fall a further 17% to 10.8m. And on December 22nd Toyota said it expected to make a $1.7 billion operating loss for the financial year, its first since it began reporting earnings in 1941. Japan's second-biggest carmaker, Honda, also expects to dip into the red. If even those paragons of efficiency are feeling the pain, what chance is there that Detroit can turn itself around by March?

On December 29th the government said it would provide $6 billion to stabilise GMAC, a finance company part-owned by GM that is turning itself into a bank. Realistically, the most GM can hope for is that it will have done enough by March to keep the drip-feed going until the second half of 2009, when things may

start to improve. As for Chrysler—don’t even ask.

Research and development

Rising in the East

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From The Economist print edition

Asia is steadily eroding America's leadership in research spending

TO SEE the geography of the technology industry, crack open an Apple iPhone. Although the firm that sells it is American, it provides none of the physical innards. The components are almost entirely Asian: the screen is mostly from Japan, the flash memory from South Korea, and it was assembled in China. Apple's contribution is the design and software—and, importantly, integrating the innovations of others.

As goes the iPhone, so goes the broader technology industry. The biggest and most technically clever firms are American and European, but their predominance in research, innovation and production is being challenged by Asian companies. A new report by the OECD puts hard figures on the extent of this steady shift.

Every year around $1 trillion is spent on research and development (R&D) in computing, telecoms and electronics; America accounts for over one-third. But while corporate R&D in America and Europe grew by 1-2% between 2001 and 2006, in China it soared 23%. China is now close to surpassing Japan in total research spending, from almost nothing a decade ago. And as a percentage of GDP, China's corporate R&D spending is almost on a par with the European Union's (around 1%).

The OECD's numbers show that Taiwan now has more high-tech researchers than Britain. And a list of the world's 250 biggest technology firms shows that Taiwanese companies spend more on R&D than British and Canadian ones. That said, the types of job are different: the Taiwanese generally do lower-end work like making semiconductors. More sophisticated tasks, such as designing the chips' circuitry, are still mostly done in the West.

The most impressive growth has been in South Korea. In 2007 Samsung spent more on R&D than IBM. The company has jumped to second place in the number of patents granted by America's patent office (just behind IBM); a decade earlier it was not even in the top ten. South Korean firms spend more on R&D as a percentage of sales (6.5%) than European and Japanese firms (around 5%), and are catching up with American ones (about 8%). South Korea now has more high-tech researchers than Britain and Germany.

The numbers highlight the rivalry between "new Asia" and "old Asia", says Sacha Wunsch-Vincent of the OECD, one of the report's authors. Regional stalwarts such as Japan and Taiwan are being challenged by China, India and South Korea. R&D spending relative to sales for the leading technology companies in America, Europe and Japan was either flat or falling between 2002 and 2006, but increased in the three "new" Asian countries.

The starkest shifts are in computer services and manufacturing, where the roles of America and East Asia have diverged dramatically. The amount that American firms spend on research in computer services as much as trebled over the past decade. Japanese and South Korean firms, meanwhile, spend hardly anything developing services, and prefer to concentrate on more tangible, if less lucrative, hardware. In computers and office equipment such as copiers, America and Japan actually traded places: America's R&D expenditure on such items fell by one-third between 1996 and 2005, while Japan's more than doubled, to around $13 billion, the amount America used to spend. (India, meanwhile, has concentrated on services, in part because stifling bureaucracy makes it easier to move bytes around than atoms.)

Even the topology of the internet itself is looking less American. In 1999 around 90% of Asia's international internet traffic passed through America; in 2008 the share dropped to 54%, according to TeleGeography, a telecoms-research firm. It is yet another example of how the technology industry, once dominated by America, is becoming truly global in nature.

Management

Generation Y goes to work

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From The Economist print edition

Reality bites for young workers

JESSICA BUCHSBAUM first noticed that something had changed in May 2008. The head of recruitment for a law firm in Florida, Ms Buchsbaum was used to interviewing young candidates for summer internships who seemed to think that the world owed them a living. Many applicants expected the firm to promote itself to them rather than the other way around. However, last May's crop were far more humble. "The tone had changed from 'What can you do for me?' to 'Here's what I can do for you'," she says.

The global downturn has been a brutal awakening for the youngest members of the workforce—variously dubbed "the Millennials", "Generation Y" or "the Net Generation" by social researchers. "Net Geners" are, roughly, people born in the 1980s and 1990s. Those old enough to have passed from school and university into work had got used to a world in which jobs were plentiful and firms fell over one another to recruit them. Now their prospects are grimmer. According to America's Bureau of Labour Statistics, the unemployment rate among people in their 20s increased significantly in the two most recent recessions in the United States. It is likely to do so again as industries such as finance and technology, which employ lots of young people, axe thousands of jobs.

This is creating new problems for managers. Because of the downturn, Net Geners are finding it harder to hop to new jobs. At the same time, their dissatisfaction is growing as crisis-hit firms adopt more of a command-and-control approach to management—the antithesis of the open, collaborative style that young workers prefer. Less autonomy and more directives have sparked complaints among Net Geners that offices and factories have become "pressure cookers" and "boiler rooms". "The recession is creating lower turnover, but also higher frustration among young people stuck in jobs," warns Cam Marston, a consultant who advises companies on inter-generational matters.

Such griping may reinforce the stereotype of young workers as being afraid of hard work—more American Idle than American Idol. Yet a survey of 4,200 young graduates from 44 countries published in December by PricewaterhouseCoopers, a consultancy, found that they want many of the same things from work as previous generations, including long tenure with a small number of employers. And they are willing to put in the hours to get them, if they are treated well.

Indeed, Net Geners may be just the kind of employees that companies need to help them deal with the recession's hazards. For one thing, they are accomplished at juggling many tasks at once. For another, they are often eager to move to new roles or countries at the drop of a hat—which older workers with families and other commitments may find harder to do. Such flexibility can be a boon in difficult times. "In the economic downturn what we are really looking for is hungry 25- to 35-year-olds who are willing to travel," says Frank Meehan, the boss of a fast-growing mobile-phone applications business that is part of Hutchison Whampoa, a conglomerate based in Hong Kong.

Net Geners' knowledge of internet technology can also help companies save money. Consider the case of Best Buy, a big American consumer-electronics retailer. Keen to create a new employee portal, the firm contacted an external consultancy that quoted it a price of several million dollars. Shocked by this, a group of young Best Buy employees put together a small team of developers from their own networks who produced a new portal for about $250,000. Another Net Gener at the company cobbled together a mobile-phone version of Best Buy's website for fun in seven days in his spare time.

Best Buy, which announced in December that its third-quarter profit had fallen by 77% compared with the same period a year earlier, is also betting that its Net Geners can come up with new ways of boosting sales using the web and other means. "We'll weather the storm and be stronger because of the Net Generation," says Michele Azar, Best Buy's head of internet strategy. Estée Lauder, a cosmetics firm, is also encouraging Net Geners to help it innovate. It has launched an initiative called iForce which brings together young staff to dream up ways of marketing products using emerging technologies.

Programmes such as iForce are based on the notion that Net Geners are well placed to encourage their peers to dip into their pockets. According to a recent survey by the Economist Intelligence Unit, a sister company of *The Economist*, Net Geners place more emphasis on personal recommendations than on brands when deciding which products and services to buy. Hence the importance of hanging on to clever youngsters who have grown up with Facebook, MySpace and so forth, and who know how best to create buzz among their peers.

Net Geners who find themselves out of a job are likely to use the same know-how to create a buzz about themselves so they can find another one. Charlotte Gardner, a 25-year-old Californian who was made redundant by a financial-services firm in November, has since been using online job and social-networking sites, as well as micro-blogging services such as Twitter, to promote her skills to potential employers. Ms Gardner, who is optimistic she will find another job soon, describes herself as "a glue kid"—someone who can get different kinds of people to work well together.

Firms battling through the recession will need plenty of "glue managers" who can persuade Net Geners to stick around and work with their colleagues on important projects. They will need to provide regular feedback to young staff on what is happening in the workplace and why—as well as plenty of coaching on their performance (see article). Companies that keep Net Geners in the dark will find themselves the targets of unflattering criticism both inside the firm and online. "These kids will scrutinise companies like never before," explains Don Tapscott, the author of several books on the Net Generation.

In the end, compromises will have to be made on both sides. Younger workers will have to accept that in difficult times decisions will be taken more crisply and workloads will increase. Their managers, meanwhile, will have to make an extra effort to keep Net Geners engaged and motivated. Firms that cannot pull off this balancing act could see an exodus of young talent once the economy improves. That, to borrow from Net Geners' text-message shorthand, would be a huge WOMBAT: a waste of money, brains and time.

Performance management

The Rypple effect

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A novel way to satisfy feedback junkies

Illustration by David Simonds

ONE defining characteristic of the Net Generation is that it thrives on feedback. Just as they are used to checking their progress on leader boards when playing video games, so Net Geners want to keep close tabs on their performance at work, too. This can be a problem for managers who may be badgered weekly—even daily—for appraisal by eager young members of staff.

The creators of a new, web-based service called Rypple claim that it can satisfy Net Geners' desire for frequent assessments while easing the burden on their supervisors. The service requires employees to establish a network of trusted peers, mentors and managers whose opinions they value. They can then send out short questions, such as "What did you think of my presentation today?", to which their network's members can respond online. The responses are kept anonymous so that, at least in theory, employees cannot tell who has made them.

Among other things, Rypple lets users ask members of their networks to measure their performance against a scale, so they can track how they are doing over time. It also lets employers see what "tags", or overarching themes, are being used most often in questions. If, say, creativity is key to a firm's success but there are few requests for feedback on employees' creativity, then bosses can tell they have not done enough to communicate their priorities.

Daniel Debow, one of Rypple's co-founders, says the system "reverses the onus on the demand for more feedback" by getting employees to build and manage their own coaching networks. Perhaps, but by making it easier for users to solicit assessments, managers could end up spending even more time fielding requests. And to older workers, Rypple may look like a Big Brotherish way to track what is going on in the workplace.

But firms that have road-tested Rypple claim that such concerns evaporate once it is up and running. (The basic service is free, but a premium version costs $2-5 per user per month.) Tony Chapman, the boss of Capital C, a Canadian marketing agency, says both young and older workers at his company have embraced the system eagerly. He is even using it to solicit feedback from clients.

Rypple may not be perfect, but it is certainly better than antediluvian annual or semi-annual performance

reviews. At a time when results are under pressure almost everywhere, anything that helps improve employees' performance quickly can be a source of useful competitive advantage. Thanks to the rise of the Net Generation, services such as Rypple may well make a splash in the workplace.

Face value

The other transition

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From The Economist print edition

Léo Apotheker, SAP's new boss, is an unusual choice, installed in an unusual way

Reuters

CHANGES in leadership at big companies can be like those in Washington, DC. They bring in fresh perspectives and new people. At the same time, they are often drawn out, disruptive and damaging to institutional memory. To avoid these problems, SAP—the world's third-largest software company and the leader in business applications—does things rather differently. At the end of this month, just a few days after the swearing-in of America's new president, Léo Apotheker will take the helm at the German company, having been "co-chief executive" for the past nine months. His predecessor, Henning Kagermann, will stay on as second-in-command until May.

At first, this sounds like a recipe for cloning the head of a corporation so the body can stay the same. But SAP, which has practised this type of "smooth" transition in different forms since it was founded in 1972, has so far avoided this pitfall. Each of its bosses has been quite different from the previous one, as the firm's needs have changed. Dietmar Hopp, one of the founders and the chief executive until 1998, was an *Übervater*, a father figure who gave SAP a strong culture in its early days. Hasso Plattner, another founder, who co-led and then headed the company between 1997 and 2003, was more of a brash software boss, which was appropriate at a time when SAP was growing quickly in America. And Mr Kagermann, an honorary member of the founders' club who became co-chief executive in 1998 and sole boss in 2003, comes across as a trustworthy college professor, which was reassuring after the heady days of the dotcom bubble.

Mr Apotheker, too, is anything but a clone from Walldorf, the town near Heidelberg where SAP is based. In fact, he was "never the likeliest candidate for this office", to quote Barack Obama. For the first time a big German firm will be run by a Jewish executive whose parents escaped the Holocaust. After the Nazis invaded Poland, Mr Apotheker's parents fled all the way to the Russo-Chinese border. Having never seen a German soldier, they had few qualms about settling in Aachen, near the Belgian border, after the war. Mr Apotheker was born there in 1953, and later moved to Antwerp. "If SAP had had a pre-war history, I would never have joined the company," he says.

His youthful activities did not suggest he would end up as a corporate high-flyer. Sporting a revolutionary's beard, he organised strikes at his school and had a few run-ins with the police, which cost him a couple of teeth. After school he left for Israel, where he quickly became a "serious man", studying economics at the Hebrew University in Jerusalem and working at the Israeli central bank before returning to Europe for family reasons. His unusual past is not all that distinguishes Mr Apotheker from previous SAP bosses. He is neither a member of the founders' generation nor a geek. Joining SAP as the head of its French subsidiary in 1988, he never worked on creating the firm's software, but only sold it, becoming

its chief salesman in 2002.

With his internationalist outlook—he speaks five languages fluently, and will keep his home in Paris—Mr Apotheker appears to be just what SAP needs, once again. In a few years it has changed from a German-centric organisation, albeit with a strong American presence, into a firm operating all over the world. Fewer than one-third of its 52,000 employees are based in Germany, where it made only a fifth of its revenues of more than €10 billion ($13.7 billion) in 2007. “We still have our roots in Germany,” says Mr Apotheker, “but we are a world citizen.”

More critically, this time around SAP, like the White House, needs more than just a new personality at the top. Times call for a boss willing to break with old habits, as SAP faces several problems. The recession has hit the technology industry hard. SAP also has to become leaner and more customer-focused. But most importantly it needs to move beyond traditional business applications (such as finance and stock control) which still generate most of its revenue. It has to start making real money from all the new products it has developed.

SAP’s transition process has allowed Mr Apotheker to get a lot done already, without having to wait for his promotion to the top job. In October 2007 he engineered the purchase of Business Objects, a Franco-American software firm whose products are supposed to drive SAP’s future growth. He has also made sure that SAP’s board is more international and is no longer dominated by engineers. And he arranged the appointment of a chief operating officer to make SAP’s top-heavy organisation more efficient.

Recent events have already shown what to expect from Mr Apotheker. He likes quick decisions: SAP was one of the first big firms to freeze costs after the financial turmoil in September. Less convincing—or just bad timing, perhaps—was SAP’s plan to increase software-maintenance fees, starting this month. After protests in Germany and Austria the firm caved in on December 9th, allowing customers in these countries to choose between a basic support service and a pricier one with lots of features.

The benefits of a co-pilot

Could this transition provide a model for other companies? It depends. It seems to work at SAP because of its unusual culture: a seemingly contradictory mix of internal consensus and competition. It allows people like Mr Apotheker to rise, and means that two entirely different personalities can run the firm side by side. Still, the change of the guard at SAP should make others in the technology industry reflect on how to manage their own handovers. On December 16th it emerged that Steve Jobs, the boss of Apple, would not deliver a keynote address at a trade show being held later this month, prompting renewed concerns about his health. And if Larry Ellison of Oracle, SAP’s arch-rival, left now, says a former colleague, it would be “like a pilot jumping out of an airplane, and everybody asks: ‘Does anybody here know how to fly?’” Having a designated co-pilot would not be a bad idea.

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The euro at ten

Demonstrably durable

Dec 30th 2008
From The Economist print edition

Europe's single currency has been a haven in recent financial storms. But as capital markets become more discriminating, it no longer affords shelter from reform

Alamy

PAUL VOLCKER once likened global capital markets to a vast sea that cannot escape the occasional big storm. Mr Volcker, a former chairman of the Federal Reserve who is now an adviser to Barack Obama, counselled that when the waters got choppy, it was far safer to be on a big ship. A stately liner can sail serenely through turmoil that would capsize even the sturdiest small vessel.

Mr Volcker was speaking a few months after the collapse of the Thai baht set off the Asian financial crisis, and a few months before the launch of the euro, which celebrates its tenth anniversary on January 1st. A decade on, the euro has demonstrated the virtue of size in rough seas. As small economies were tossed by the financial storms that followed the collapse of Lehman Brothers in September, the currencies with global clout, such as the euro and the dollar, were the most stable.

In its first ten years the euro has come through several tests already. Claims that the currency zone would fall apart have proved groundless. Nor is the euro a soft currency, as some had feared. The European Central Bank's (ECB) common monetary policy has drawn on the traditions of its best constituent central bank, the Bundesbank—and has produced an even better record of low inflation.

From the standpoint of economic stability, the euro has been a success. If there is cause for disappointment it is that sound money and the price transparency afforded by a common currency have not fostered faster economic growth. The hope when the euro was launched was that countries stripped of the licence to cheapen their currencies would be forced to compete directly, and that competition would beget more flexible markets and higher productivity. Yet there has been little improvement in the euro area's underlying growth rate in the past ten years. Income per person has remained at around 70% of that in America.

Perhaps the euro has proved too safe a haven. Partly sheltered from the whims of fickle foreign capital, member states have been under less pressure to shape up. If that is true, the blame may not lie entirely with the single currency. The run-up to currency union and most of the euro's first decade coincided with the Great Moderation, a period of economic stability and low inflation—and hence low interest rates—in the rich world. But investors who once underpriced risk are now charging heavily to bear it, which will affect companies and governments inside the euro's embrace as well as beyond it. As budgetary laxity and weak growth become costlier, reforms are more likely.

The crisis has another legacy: despite the weakness of the dollar in recent weeks, the euro may struggle to challenge the greenback as the world's main reserve currency. Lately, it is true, the euro has gained in value against the dollar—partly because the ECB seems reluctant to follow the Federal Reserve's path to zero interest rates. But the dollar held up better in the eye of the financial storms in October, when investors were most fearful. The American currency still has important advantages over the European newcomer.

Safety in numbers

The advantages of euro membership—and the perils to small European countries of being outside—were plain when the crisis was most severe. Last autumn capital drained from currencies that investors saw as risky. That included the paper of countries, such as Iceland, with bloated financial industries, as well as some eastern European states with current-account deficits, heavy public borrowing or (as in Hungary) a dangerous mix of both.

Euro-area countries with similar faults have been spared the currency crisis that plagued others. Eurocrats are quick to point out that Ireland's guarantee of bank deposits and debt would seem threadbare if it still managed its own currency: investors might have taken fright at the scale of the banking sector compared with GDP. Being part of a big club has made a currency run far less likely (though Ireland's membership of the euro is one reason it became a large financial centre in the first place). Belgium, with its big banks and huge public debt, has benefited from being an insider too. Spain would have struggled to fund its current-account deficit, the world's second-largest, outside the euro.

At the worst point, investors ran from all but four big global currencies: the dollar, the euro, the yen and the yuan. Doubts were even raised (and remain) about the wisdom of holding the British pound and the Swiss franc, which each account for a small share of global foreign-exchange reserves. For some, Britain and Switzerland are Iceland or Ireland writ large, but without Ireland's lifeboat—its membership of a large and liquid currency pool. Both countries have big banking industries with foreign-currency debts.

Leading figures in the European Commission have not been shy to play up the role of the euro as a haven. The commission's president, José Manuel Barroso, said on French radio that "some British politicians have already told me: 'If we had the euro, we would have been better off.'" Mr Barroso also claimed Britain was "closer than ever before" to joining the euro.

That is an overstatement. There are few signs yet that public or political opinion in Britain has shifted towards signing up to the euro. But the lessons of the crisis have not been lost on many other EU countries that have yet to join. The three Baltic countries have long been keen to adopt the euro, but have fallen foul of the low-inflation criterion for entry. Hungary abandoned its attempt to join when it became clear it would not meet the public-finance criteria for joining, which include a budget deficit below 3% of GDP. It is now said to be redoubling its entry efforts and plans to peg the forint to the euro in preparation. Poland's chilly attitude towards euro membership began to thaw after a €10 billion ($12.5 billion) credit line was offered by the ECB to help stabilise the zloty.

Denmark was forced to raise interest rates in October to keep its currency peg with the euro intact. After two votes against joining the euro, the government is mulling a third referendum. Polls suggest that this time the Danes would vote in favour. Even the sceptical Czechs seem less doubtful about the merits of membership of the currency club.

With its sound public finances, low inflation and stable exchange rate, Denmark would sail through the euro's entrance exam. Sweden could make the cut too, if it was minded to. But the rest would be hard pushed to join soon. It is unlikely that the rules for entry will be relaxed. Just as euro outsiders may now see advantages in being part of a global currency, insiders may take a different lesson from the crisis: that a less exclusive euro club, with laxer rules, would dim the currency's allure.

Haven or trap?

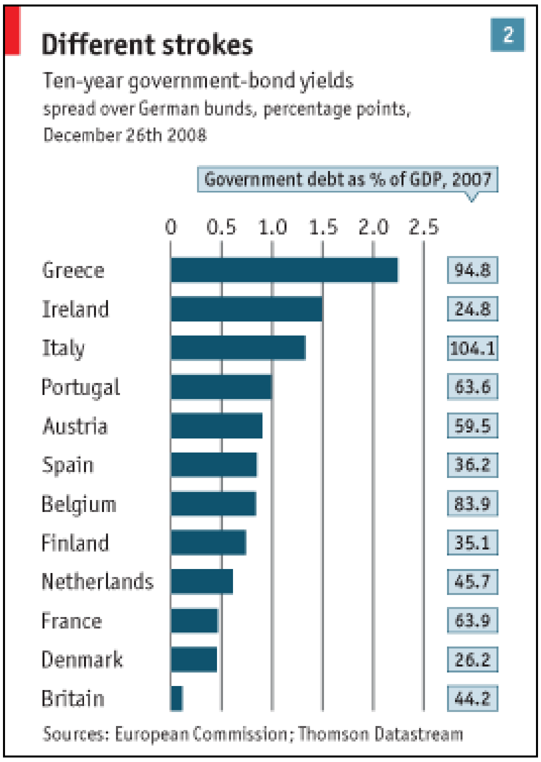
In fact, some existing members are struggling with the rigours of a currency union. When a country's wage costs rise too quickly, it can no longer recover lost competitiveness through a lower exchange rate. That is a concern because wages in some euro-area countries look dangerously out of whack. Unit labour costs in the zone rose by 14% between 1999 and 2007, according to a recent article in the ECB's *Monthly Bulletin*. But in Greece, Ireland, Italy, Portugal and Spain, they rose by 10-20 percentage points more

(see chart 1). That makes it harder for firms in these countries to compete with rivals in the rest of the euro area.

This group is suffering badly in the downturn. Housing busts in Ireland and Spain have crushed domestic demand. Tax receipts that had been swollen by booms in consumer spending and housing have shrivelled. With unemployment rising too, public finances are worsening. Portugal has struggled to dig itself out of the rut it fell into when its convergence boom turned to bust in 2000. Greece, like Portugal and Spain, has a big current-account deficit. Italy has a smaller trade gap but, like Greece, has huge public debt. As the prospects for economic growth fade, investors are starting to demand far higher interest rates for holding their sovereign debt than for the safest German government bonds (see chart 2).

Although all the euro area's members, including super-competitive Germany, are troubled, recovery is likely to prove most difficult where wage growth has run far ahead of productivity gains. Firms will find it harder to dislodge cheaper imports from their home markets and will struggle to keep up with their euro-area peers abroad. The old remedy of a lower exchange rate is no longer available. For that reason "it is far from self-evident that it is better to be inside the euro than outside it," says Francesco Caselli, of the London School of Economics. In 1992, the last time Europe lived through such currency-market squalls, both Britain and Italy were forced to devalue their currencies against other EU nations. Neither country regretted it, says Mr Caselli.

Are Italy, Spain and the other countries struggling with high wage costs and low productivity eyeing Britain enviously, as its currency slumps and its relative wage costs fall with it? Or is Britain wishing it were, like Italy, safe inside the euro ark? Britain has been harder hit by the credit crunch: it had a huge housing boom that is turning to bust; it has a large financial sector, which is now shrinking fast; and its households are more indebted than even America's.



In other words, Britain is suffering from the very "asymmetric shock" that is so hard to adjust to within a currency union. In these circumstances Britain benefits from being able to cut interest rates and allow its currency to depreciate. The pound had looked dear on some measures anyway. And Britain has not been frozen out of capital markets: its government-bond yields are a bit lower than France's and much lower than Italy's.

Italy faces starker choices. A 2006 report from the Centre for European Reform, a London think-tank, concluded that Italy could follow three paths. It could continue to muddle through as the euro area's slowest-growing economy; it could introduce reforms to tackle its poor productivity and high labour costs; or it could leave the euro, default on its euro debts and devalue its currency. Two years on, Simon Tilford, the author of the report, reckons that with deep recession and ballooning budget deficits on the horizon, muddling through is no longer an option. He also thinks Italy's exit from the euro cannot be ruled out.

However, a break-up is improbable—and less likely than it was before the crisis. Marco Annunziata of UniCredit, an Italian bank, reckons that the lesson being drawn from the travails of Hungary and Iceland is that being outside the euro is costly. Some monetary-policy autonomy would be restored by leaving, but borrowing costs would go up. At a time when markets are clinging to the safest investments, Italy's high public debt and poor record of macroeconomic management would count heavily against it. The policy debate in Italy has become more pragmatic as the potential losses from being outside the euro loom

larger, says Mr Annunziata. The world has changed since Argentina and Russia swiftly regained access to foreign capital after defaulting on debts. Investors are likely to be far less forgiving these days.

A catalyst for reform

The more bracing market conditions may renew hopes that the euro will be a catalyst for reform. The record so far is disappointing. Productivity growth has slowed from an already sluggish 1.6% a year before the euro's launch to 0.8% since. That isn't a wholly bad sign: perhaps healthy jobs growth temporarily depressed productivity because each new worker was less productive than the average. André Sapir, an economist at Bruegel, a Brussels think-tank, says there is some tentative evidence for this: countries with the worst productivity record, such as Spain and Italy, enjoyed rapid jobs growth.

That said, sluggish productivity also reflects a waning appetite for reform. A report by the European Commission on the euro's first decade concluded that members became less ambitious after 1999. That may partly reflect "reform fatigue", following the dramatic efforts made to qualify for the first wave of euro entry.

The protection the euro offered its members also worked against reform. Joining the euro meant that countries could carry on with old habits for longer. For countries such as Italy with huge public-debt burdens, the reduction in interest costs on joining the euro relieved pressure to trim budgets. Spain's consumption boom and ballooning current-account deficit continued unchecked because foreign lenders faced less currency risk.

Before the credit crisis started to brew, investors were almost as keen to own the public debt of profligate Italy as that of prudent Germany. At one time ten-year Italian government bonds yielded just 16 basis points (hundredths of a percentage point) more than the equivalent German bonds. Life within the euro area is no longer quite so cosy. The spread has risen to 140 basis points and may rise further as concerns about Italy's fragile public finances and faltering economy increase.

Challenging the dollar

The return of the bond-market "vigilantes" will put pressure on budgets, which may in turn spur wider reform. Fiscal laxity tends to fatten the government wage bill, setting a high benchmark for private pay deals that can cripple competitiveness. Scarcer credit may affect the private sector directly too. Recent research by economists at the commission found that incentives for reform are greatest when financial markets are working well. Capital will tend to flow to countries that have made most progress in freeing their economies.

The euro has proved itself a safe place for insiders at times of crisis. But how appealing has the currency been for outsiders? The euro held up far better than currencies backed by smaller, less diversified economies. The euro is attractive because of the currency zone's size, political stability and sound monetary policy. But in the eye of a storm that had its origins in America, the dollar rallied against the euro.

The dollar's attractions as a bolthole are partly a benefit of incumbency. The greenback accounts for around two-thirds of global currency reserves, compared with a quarter for the euro. Outside the EU, the bulk of cross-border sales are invoiced and settled in dollars. A third even of euro-area trade is still dollar-based. The greenback still dominates global currency transactions—which is a rough guide to its use as a "vehicle currency" for trade between smaller economies (see table 3).

Vehicle currencies 3

Foreign-exchange market turnover

% share of average daily turnover, April

	Dollar	Euro	Yen	Sterling
1992	82.0	39.6	23.4	13.6
1995	83.3	36.1*	24.1	9.4
1998	87.3	30.1	20.2	11.0
2001	90.3	37.6	22.7	13.2
2004	88.7	37.2	20.3	16.9
2007	86.3	37.0	16.5	15.0

Source: BIS *Predecessor currencies

For some observers, the euro cannot challenge the dollar's hegemony as long as it remains a currency without a state. The euro area cannot rival the liquidity offered by the market for American Treasuries, which have a single issuer. The euro has 16 separate government bond markets. Bonds held as currency reserves are useful if they can be converted to cash quickly and cheaply. The market for German government bonds meets the requirement for liquidity but others fall short.

This liquidity problem is compounded by worries about the default risk of some euro-area sovereign bonds, says Stephen Jen, a currency analyst at Morgan Stanley. That markets now discriminate among euro-area credits is a good thing. But it also means investors see the euro's financial markets as fragmented, which undermines its appeal as a reserve currency. Doubts about the merits of holding euro reserves have been raised by poor co-ordination of policies—from deposit guarantees to bank bail-outs and fiscal packages—in response to the credit crisis.

The lesson that Asian central banks have taken from recent events, says Mr Jen, is that when their currencies come under pressure, they need liquid dollar securities: "It is only in bad times that the mettle of a reserve currency is tested and the dollar met that test better than the euro."

The euro may yet make further ground as a reserve currency—at the expense of the smaller European currencies, the pound and the Swiss franc, if not the dollar. The more important legacy for the euro may be within the currency zone itself. Its status as a haven in the financial storm has quietened voices that habitually blame the euro and the ECB for all economic ills. If that mood is sustained, politicians may look closer to home for solutions to the problems facing their economies. The newly discriminating capital markets may nudge them in the right direction.

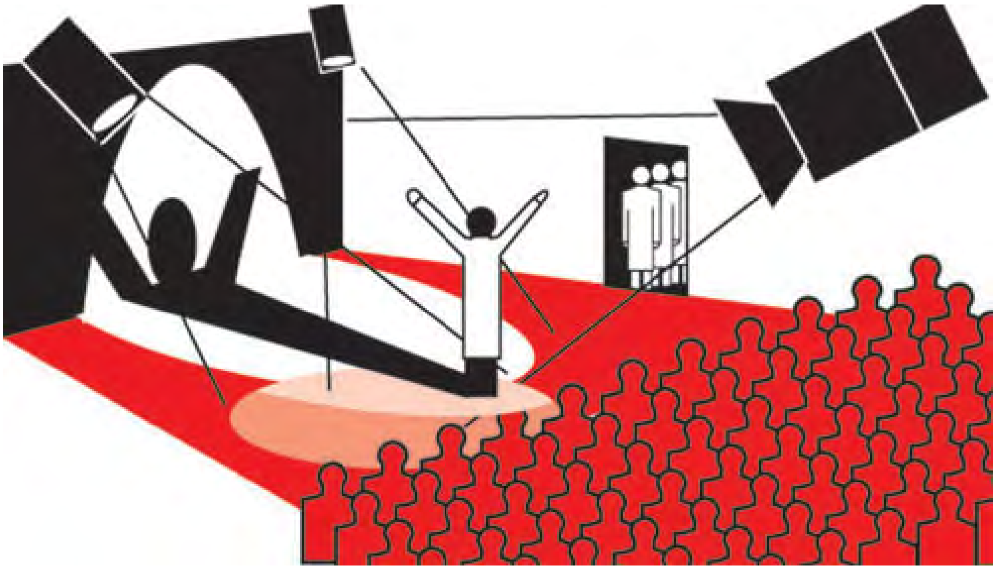
Emerging economists

International bright young things

Dec 30th 2008
From The Economist print edition

The next generation of economists do their best work somewhere between the field clinic and the dissection room

Illustration by Otto Dettmer



TWENTY years ago *The Economist* wrote about eight young economists who were making a big splash in their discipline and beyond. One of them, Paul Krugman, recently won the Nobel prize for his models of international trade and economic geography. Ten years later we tried to repeat the trick, identifying another eight young stars, many of whom were taking their discipline far off-piste. One has since achieved even greater fame than anticipated. Steven Levitt of the University of Chicago became a household name as co-author of "Freakonomics", a bestselling book published in 2005.

"Freakonomics" owed its origins to a profile of Mr Levitt in the *New York Times* magazine in 2003. Its success has won a new readership for economists, beyond the business section and the opinion columns, in the glossier pages of the weekend supplements. The best young economists, as a consequence, have already attracted plenty of attention. That leaves us in a bit of a quandary. We feel like lonely prospectors, who, returning to a favourite stream, find it overtaken by a gold rush.

Undeterred, we have given the prospecting pan another shake. We asked leading authorities in the discipline to name the best young economists in the world. Between them, they proposed over 50 researchers, but several names recurred on many lists. We have sifted the 50 down to eight, all of whom received their PhDs in the past ten years.

The family tree

Several of the scholars in this year's batch trace their intellectual ancestry back to those we picked ten years ago. For example, **Jesse Shapiro** of the University of Chicago and **Roland Fryer** of Harvard are recognisably the intellectual heirs of Mr Levitt. They share the same knack for finding ingenious ways to answer unlikely questions, often by plundering forgotten troves of data.

At just 29, Mr Shapiro can already boast a collection of eye-catching findings worthy of a sequel to "Freakonomics". He has shown that some judgments are best made without too much information: people are better at predicting the winner of American gubernatorial elections when they watch the candidates with the sound turned off. Harsher jail conditions do nothing to deter prisoners from reoffending. If

anything they encourage recidivism. Preschoolers who watch television do better academically than children who don't, especially if their parents have little education or poor English.

Mr Fryer's ambition is to unravel the causes of black underachievement in America, especially in education. His search for explanations extends beyond racism and poverty to contemplate the role of a self-defeating culture. He calculates that a black student who earns straight A grades will have 1.5 fewer friends from his ethnic group than an equally swotty white student.

Michael Kremer, another of those we cited ten years ago, can also claim an intellectual relative in this year's cohort. **Esther Duflo** of the Massachusetts Institute of Technology (MIT) received more recommendations than any other economist. Some who didn't nominate her thought she was too established to count as "new".

With her colleague, Abhijit Banerjee, Ms Duflo and Mr Kremer have remade development economics, nudging it away from its concern with policies, towards a preoccupation with projects. They study economic development as seen from the field, clinic or school, rather than the finance ministry. They might be called the "peace corps" of economists, bringing the blessing of their investigative technique to the neglected villages of India or the denuded farms of western Kenya.

Ms Duflo has made her name carrying out randomised trials of development projects, such as fertiliser subsidies and school recruitment. In these trials, people are randomly assigned to a "treatment" group, which benefits from the project, and a "control" group, which does not. By comparing the average outcome of each group, she can establish whether the project worked and precisely how well.

In one study, Ms Duflo and her colleagues showed that mothers in the Indian state of Rajasthan are three times as likely to have their children vaccinated if they are rewarded with a kilogram of *daal* (lentils) at the immunisation camp. The result is useful to aid workers, but puzzling to economists: why should such a modest incentive (worth less than 50 cents) make such a big difference? Immunisation can save a child's life; a bag of lentils should not sway the mother's decision either way.

Randomised trials "give you the chance to be surprised", Ms Duflo says. Had they arrived at this result using some other method, she and her colleagues would have assumed they had made a mistake. But randomisation removes such doubts, showing that it was indeed the lentils that made the difference. The result cannot be dismissed; it must be explained.

The approach has its critics. A randomised trial can prove that a remedy works, without necessarily showing why. It may not do much to illuminate the mechanism between the lever the experimenters pull and the results they measure. This makes it harder to predict how other people would respond to the remedy or how the same people would respond to an alternative. And even if the trial works on average, that does not mean it will work for any particular individual.

The randomistas, as Ms Duflo and her comrades are called, liken their studies to the clinical trials that prove the efficacy of new drugs. But the ultimate ambition of economics is for something more akin to anatomy. Researchers hope to dissect the underlying physiology of an economic problem, revealing how the leg bone is connected to the thigh bone. With a full anatomy of behaviour—what economists call a structural model—they can determine if a policy or project will work even before it has been attempted.

The early anatomists of the human body suffered from a shortage of fresh cadavers to work on. Medical students would trek long distances to watch a dissection performed. Economists often find themselves in a similar predicament. Short of good empirical meat, they have to rely on elaborate theory and guesswork to fill in what they cannot observe.

Illustration by Otto Dettmer

Amy Finkelstein, also of MIT, the fourth of our young stars, has anatomised the market for annuities in Britain. The industry suffers from “asymmetric information”: customers may know more than the provider about their chances of dying. Unfortunately, this private information is as hidden from economists as it is from the annuity company. Ms Finkelstein and a colleague, James Poterba, have shown how to infer the cost of this unseen problem from what can be observed, namely the kind of annuities people choose and the length of their life after retirement.

Like Ms Finkelstein, **Raj Chetty**, recently hired by Harvard from the University of California, Berkeley, is a promising young “public economist”: a student of tax and spend. He has great respect for structural models. But in a recent paper he makes the case for judicious short cuts. Often you don’t need to dissect a whole body; a few choice incisions are enough.

For example, he wanted to know whether policymakers should raise unemployment benefits. To answer this question, a structural model would need to specify how much a dollar is worth to a person on the dole, as compared with someone in work. It would also need to quantify the burden a job hunt imposes. This isn’t easy to find out. But Mr Chetty argues it is unnecessary.

He gleans all the information he needs by looking at the time it takes unemployed people to find a new job. Unsurprisingly, they take longer when their benefits are more generous. This is usually attributed to “moral hazard”—people take less care to escape a danger, such as joblessness, if they are insured against it. But Mr Chetty shows that skewed incentives account for only 40% of the delay.

The rest is due to what he calls a “liquidity effect”. The unemployed typically have few liquid assets to fall back on and little chance of a loan from the bank. This forces them to rush their job search. If they had savings to dip into or credit to tap, they might search with greater deliberation. This kind of dallying is, in a sense, optimal. The unemployed decide that an unhurried job search is worth the extra cost of depleted savings or heavier loan repayments.

Higher benefits ease this liquidity problem. Raising benefits by $1 a week would do as much social good as raising American GDP by $290m, Mr Chetty calculates, although government loans to the unemployed might do better still.

Twenty years ago macroeconomists dominated our list of the best young thinkers, but they are under-represented in this year’s batch. We found plenty of agreement about the three or four young macro thinkers most likely to succeed, but surprisingly little confidence that they would. One leader in the field suspected their work represented a moment of beauty, not truth. Another complained that the youngsters lacked the “vision thing” that distinguished the greats of the past.

Ramsey revisited

If so, perhaps they can blame the times that produced them. They came of age during the Great Moderation, a period of macroeconomic tranquillity and intellectual consensus. They are in thrall not to John Maynard Keynes, sage of the Depression, but to his Cambridge contemporary, Frank Ramsey, a precocious polymath who made his contributions in the prelapsarian 1920s. Ramsey was interested in how much of its income a nation should save so as to maximise its prosperity now and in the future. His work underpins much of modern macroeconomics, in which agents act today with an eye on tomorrow. But the framework is best suited to analysing steady accumulation, not violent cycles of speculation and liquidation. So it is not the obvious place to start to explain the world economy’s present predicament.

The macroeconomist nominated most often for our list was **Iván Werning** of MIT. Mr Werning is an

economist's economist; an elegant theorist, whose early contributions provided streamlined proofs that other thinkers could make use of. One of Mr Werning's ambitions is to unite Ramsey's work with that of another elegant theorist, Sir James Mirrlees. Sir James won the Nobel prize in 1996 for exploring how best to set taxes when people can disguise their true worth from the revenue collector. Mr Werning asks the same question, but in the forward-looking, macroeconomic setting provided by Ramsey.

Mr Werning and his co-authors have so far derived at least two theoretical results of note. The first is to show that the unemployed have sufficient incentive to find work, even if they receive unemployment benefits indefinitely. The second is that bequests from one generation to the next should be subsidised by the government, with smaller inheritances receiving higher rates of subsidy. Mr Werning and his co-author, Emmanuel Farhi (a young Harvard macroeconomist), point out that the biggest roll of the dice in life is the family you are born into. Their system of subsidies would take the edge off this uncertainty.

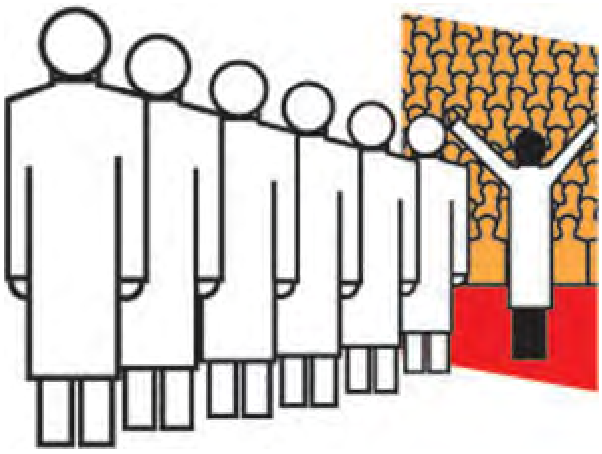
Two of the economists we highlighted ten years ago—David Laibson of Harvard and Matthew Rabin of Berkeley—were exponents of "behavioural economics", incorporating the insights of psychology into the dismal science. The sub-discipline has continued to flourish in the decade since, seeping so far into the mainstream that its disciples no longer constitute a self-contained school. The randomistas, for example, often invoke behavioural explanations for their experimental results.

Xavier Gabaix of New York University, our seventh pick, is another example of someone who is au fait with behavioural economics but not defined by it. He has written papers with Mr Laibson, including one that explains why hotels can get away with overpricing the mini-bar. But his interests extend beyond the behavioural.

He has, for example, shown a fascination with "power laws": tantalising statistical patterns that seem to crop up wherever you look hard enough. The size of cities, the pay of executives and the performance of the stockmarket all seem to follow such laws. For cities, the law can be crudely expressed as the "rank-size rule". The second-biggest city will have roughly half the population of the biggest; the population of the third-ranked city will be one-third of the first's, and so on. The relationship between executive pay and company size also obeys a power law: companies twice the size tend to pay their chief executives roughly 25% more.

These curious regularities have more than numerological appeal. They give clues about what can and cannot explain the size and growth of the things they describe. For example, the rank-size rule could not hold if small cities grew systematically faster than big ones, or vice versa. The power law of executive pay also requires a particular kind of economics to explain it. Mr Gabaix thinks the "economics of superstars", invented by Sherwin Rosen, fits the bill.

Illustration by Otto Dettmer



Top executives may differ only slightly in their talents, just as sports champions differ only slightly from runners-up. But the better managers nonetheless get hired by the bigger firms, just as the best entertainers sing to the largest audience. This means an executive's small edge in managerial skill is amplified, because his talents go to work on a bigger canvas. Mr Gabaix made a splash in 2006 when he concluded that the "excessive" pay of chief executives was not necessarily excessive. Compensation may have grown sixfold from 1980 to 2003 not because managers were six times greedier, but because the firms they ran were six times bigger.

If the size of firms obeys a power law, economies will comprise some very big firms and a long tail of small ones. The fortunes of the biggest companies might then stir the whole economy, Mr Gabaix

conjectures. The $24 billion dividend paid by Microsoft in December 2004, for example, added 3% to America's personal income that month. Mr Gabaix calls for a more "granular" approach to macroeconomics, which would weigh the contribution of big firms to national aggregates.

This granular view is already taking hold in studies of international trade. Countries, after all, do not trade with each other; companies do. A few firms usually account for the lion's share of a country's exports: in America, the top 10% of exporters account for 96% of the country's foreign sales, and only 4% of firms export at all.

These observations (drawn from work by Andrew Bernard of Dartmouth College among others) demand a theory to explain them. That gap has been filled by **Marc Melitz**, a trade economist at Princeton University and our final new star.

Mr Melitz is a pioneer of the "new, new trade theory", which succeeds the "new" trade theory propounded by Mr Krugman almost 30 years ago. The source of its novelty is its recognition that firms differ, and only the best firms export. In America, for example, exporting factories are more than twice as big as plants that do not sell beyond their shores, and they squeeze 14% more out of their workers.

In Mr Melitz's theory firms first prove themselves at home, discovering their own limits and abilities. Only the best then venture overseas. Entering a foreign market is an expensive endeavour, he points out, even before firms encounter the tariffs or transport costs that preoccupy most trade models. An exporter must find and introduce itself to distant customers, comply with alien regulations and set up distribution channels abroad. One study found that it cost Colombian chemical factories over $1m to enter a foreign market.

The gains from trade also differ in Mr Melitz's model. In the new trade theory that preceded it, international commerce raises the productivity of firms by enlarging their market, allowing them to reap economies of scale. In Mr Melitz's model, trade raises the productivity of industries, not by allowing firms to grow bigger, but by giving the better firms a bigger share of the market. Foreign competition sifts and sorts firms, winnowing out the weakest firms and leaving a greater share of the market to their stronger rivals.

Just as Mr Krugman found a clean way to account for economies of scale, Mr Melitz handles the heterogeneity of firms without spoiling the lines of his model. It now serves as a pliant workhorse for lots of "granular" thinking in the field.

Bodice rippers

Over 60 years ago Paul Samuelson laid down "the foundations of economic analysis" in his seminal work of that name. In the introduction, he describes his dawning realisation of the underlying unity of the subject. As he laboured in each field—consumer behaviour, public finance, international trade, business cycles—he encountered similar problems, which yielded to the same set of mathematical techniques. Mr Samuelson's book squeezed a shapeless body of economic knowledge into a tight corset.

In the decades since, the laces have been unpicked. It is not just that economists are nosing into new fields of social behaviour. They have been doing that at least since Gary Becker of the University of Chicago wrote about crime and the family in the 1960s and 1970s. But today's economists show no great attachment to the rational model of behaviour that guided Mr Becker. Economic theory has become so eclectic that ingenious researchers can usually cook up a plausible model to explain whatever empirical results they find interesting. Economics is now defined neither by its subject matter nor by its method.

What, then, unites these eight young stars and the discipline they may come to dominate? Economists still share a taste for the Greek alphabet: they like to provide formal, algebraic accounts of the behaviour they explain. And they pride themselves on the sophistication of their investigative methods. They are usually better at teasing confessions out of data than their rivals in other social sciences. What defines economics? Economics is what economists do—the best of them, anyway.

Banking in China

Needed: a strategy

Dec 30th 2008 | HONG KONG
From The Economist print edition

With Western finance in disrepute and local markets moribund, international banks are groping for a role in China

Illustration by S. Kambayashi

IN THEIR darkest moments, global banks can find some solace in the thought that, regardless of how much they are to blame for the world's financial woes, they remain essential to recovery in America and Europe. Their prospects in China, where an abrupt change in circumstances and mood has taken place during the past year, are much less sure. As in New York and London, lucrative underwriting assignments have disappeared. But in China the crisis is also serving as a superb pretext for hardening regulatory and competitive impediments to all but the state-controlled local financial institutions.

The immediate obstacle, say foreign bankers in China, is a reduction in the credit their operations can receive from Chinese banks (which are all, to a significant extent, controlled by the state). The scarcity of domestic funds is crippling because other rules hold foreign institutions back from injecting capital into their Chinese operations. The role they can play in the public capital markets also remains limited. Despite years of lobbying and some partial approvals, no international bank has gained even the basic right to underwrite and distribute securities on its own.

Making money for a non-Chinese financial institution in this environment means working around the edges. Activities based on economies of scale and tied to cross-border business can still pay their way. Foreign-exchange trading remains lucrative for a handful of global banks, for example. Even in a slump, there is money to be made processing transactions.

Two years ago it was plausible for the big investment banks to believe that this sort of activity would merely augment far richer opportunities that would come from China's growth and the shift of its financing from the state banks to public markets. In 2006 and 2007 vast profits were made from taking Chinese companies public in Hong Kong—then believed to be a prelude to doing the same in Shanghai and Shenzhen—and from related businesses in brokerage and wealth management, says Matthew Austen of Oliver Wyman, a consultancy (see chart). Among the flurry of deals were the listings of three of the world's largest financial institutions and one of its biggest industrial firms.

Extending that kind of success would have been a stretch in any event—the biggest deals were the first to be done—but the collapse in demand has gone far beyond the loss of particularly attractive candidates. Investment banks and accounting firms have spent the past year working frantically to prepare hundreds of Chinese companies for listings, only to find that the appetite for investment has crashed along with the price of China-related shares. There has not been a single offering in Shenzhen or Shanghai since September, and just one a month in Hong Kong. A senior executive at a global bank with a usually successful China business says no money has been made since June.

In the absence of demand in the public markets, private-equity players theoretically have the market to themselves, but most are locked into "pre-IPO strategic stakes" that in 2007 could be profitably flipped during a listing but now are frozen. Funds that do have surplus cash are holding it in expectation of redemptions from spooked clients, or redeploying it in America where a correct bet on a restructuring opportunity can make a career.

It is not all bad news. Some clever, cash-rich companies are taking advantage of an opportunity to buy shares in themselves, or in other companies. Sir Run Run Shaw, a 101-year-old media mogul, had hoped to sell his Hong Kong broadcasting company in the summer to a (briefly) rich Chinese property developer. On December 22nd, in the aftermath of the deal's collapse, Sir Run Run bid to take private the 25% of the broadcaster's parent that he does not already own. Numerous other deals of this sort are in the works, say local lawyers.

There are also renewed signs of interest in strategic deals. In July Carlyle, a private-equity firm, lost a three-year battle to acquire Xugong Group, a tractor company, in a move that was widely believed to reflect China's growing resistance to outside involvement in its economy. But according to some bankers, the financial crisis has led regulators privately to suggest that such offers might now be viewed more positively. A critical test will be Coca-Cola's $2.4 billion offer for Huiyan, the country's largest juice company. If the deal is approved—no sure thing—it could herald others, which would naturally play to the strength of global banks.

China's bankers and their regulators may also be facing disasters of their own, as the limitations inherent in a state-driven system become clearer. It is striking that the widespread closure of factories in southern China, the country's principal manufacturing region, has led to no significant reports of credit deterioration. The only sign of apparent financial distress has been a largely unexplained capital infusion of $2.5 billion by the Bank of China into its Hong Kong-listed affiliate. The suspicion is that some, and maybe quite a lot, of the relative strength of the Chinese system reflects opacity rather than a more effective approach to allocating credit.

If so, then China may be due for its own round of financial restructuring and recapitalisation. It would once have been easy to argue that a market-driven system served up by big Western banks could do a better job of this than the government. When virtually every such institution has been given state support to stay in business, that case is much harder to make.

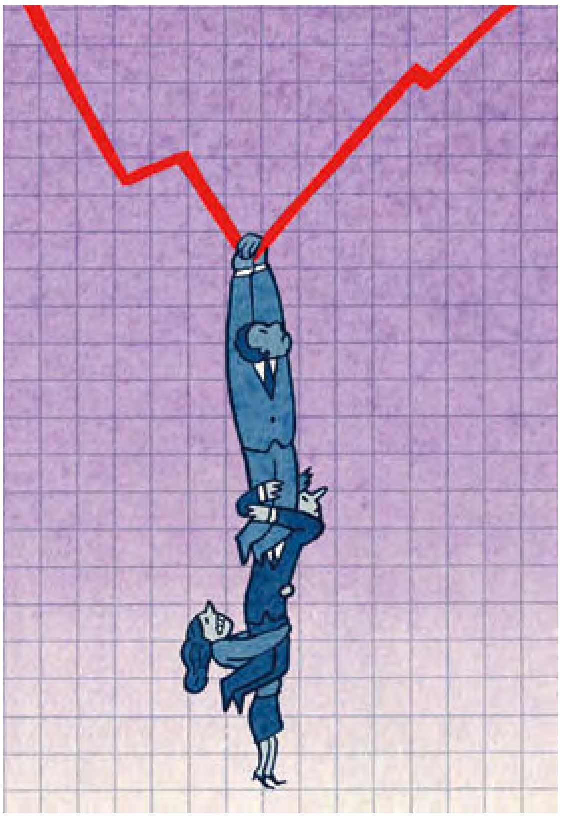
Buttonwood

Ready for a rally?

Dec 30th 2008
From The Economist print edition

Markets could decouple from the economy in 2009—in a pleasant way for equity investors

Illustration by S. Kambayashi



SOOTHSAYING is not a very respectable profession. Like Cassandra, those whose forecasts are correct tend not to be believed. Most people are drawn into extrapolating from current trends and are thus surprised when things change. That is one reason why economists are so hopeless at predicting recessions.

In late 2007 Buttonwood ventured to forecast that both commercial property and eastern European economies would be a source of trouble in 2008. Although those predictions turned out to be right, neither was remotely close to being the big story of the past 12 months.

The sheer scale of the damage wrought on the banking sector by the credit crunch was a surprise to almost everyone. It is true that some people forecast that the debt burden of English-speaking consumers would lead to economic calamity, but many of those Jeremiahs had been predicting disaster for a decade or so.

If 2008 was the year of systemic risk, particularly in the financial sector, 2009 seems likely to be a year dominated by specific risk. In other words, we can be sure that more companies will default on their debts. The current default rate on American high-yield bonds is less than 4%. Barclays Capital is predicting a rate of 14.3% by the second half of 2009.

Inevitably some of the defaulters will drag other companies down with them. Equally certain is that the downturn will lead to the emergence of financial scandals, along the lines of Enron and WorldCom in 2002. Recessions uncover what auditors do not, as the old saying goes.

But corporate collapses would hardly count as the big surprise of 2009. What would? Country risk also

returned in the course of 2008, with Iceland the most notable example. But although emerging-market bond spreads have widened, they have not done so to anything like the same extent as high-yield debt. There may be some more country defaults in 2009, as export volumes and commodity-related revenues slump, and as Western banks, under political pressure, focus on domestic rather than international lending.

Markets have a terrible tendency to inflict maximum pain on the maximum number of investors. For example, if the consensus is bearish on the dollar, investors will be positioned for a decline in the American currency. If the greenback then rises, investors are forced to buy the dollar, pushing the currency up even further.

David Bowers of Absolute Strategy Research argues that investors are positioned as if 2009 will see a rerun of the 1930s Depression, having sold equities and commodities and pushed government bond yields down to very low levels. But what if all the measures taken by governments and central banks actually work? Interest rates have been slashed, taxes have been cut, money has been bumped into the banking system. The effect of these policies might come through in 2009, since both monetary and fiscal policy always take a while to have an effect.

Mr Bowers reckons that the fourth quarter of 2008 may have seen an "inventory shock". Faced with credit constraints and forecasts of plunging consumer demand, companies slashed production. The result is that they are entering 2009 with very low inventories. If consumer demand turns out to be better than expected, then companies may find themselves desperate to get hold of components and raw materials. Pricing power will return and commodity prices will shoot back up.

That would definitely count as a big surprise. Morgan Stanley, for example, is forecasting a fall of 30% in capital expenditure between now and mid-2010. If Mr Bowers is right, low government-bond yields could lose their appeal and equities could rebound. Income-seeking investors seem unlikely to get much of a return from cash this year.

An equity rally could occur even if the global economy is in for a prolonged period of weakness. Two of the best years for Wall Street in the 20th century were 1933 and 1935, despite the severity of the Depression. The value of the London stockmarket more than doubled in 1975, in the midst of a stagflationary crisis and the year before Britain had to ask the IMF for an emergency loan.

For much of late 2007 and early 2008, many people in the "real economy" wondered what the financial sector was panicking about. It was only in the autumn that business conditions turned savagely down. By extension, it is quite possible that in the course of 2009 company executives will be bemoaning a slump in both demand and profits at a time when stockmarkets are rallying in anticipation of recovery in 2010.

Fixing finance

A slice of Danish

Dec 30th 2008
From The Economist print edition

An ancient Scandinavian model may help modern mortgage markets

COPENHAGEN'S winding streets and curved waterways are not obvious places to find the answers to one of finance's most pressing questions. Yet some argue that it was here, amid the devastation of the city's great fire of 1795, that a mortgage-lending model was developed that may offer a way to thaw today's mortgage markets in America and Europe.

Denmark has not escaped the credit crunch entirely. Its economy is contracting, house prices are falling and several of its smaller banks have been bailed out after making risky commercial loans. Nevertheless, the country's mortgage banks are continuing to sell bonds and issue mortgages at a pace similar to that before the credit crisis. "We have been issuing bonds every day, even in the worst days," says Henrik Hjortshoj-Nielsen of Nykredit, Denmark's biggest mortgage lender. "We haven't seen lower volumes."

When a Danish mortgage bank grants a mortgage it is obliged to sell an equivalent bond with a maturity and cashflow that matches those of the underlying loan almost perfectly. This may not seem very different from the "originate-to-distribute" securitisation models that flourished in America and parts of Europe in recent years. But the Danish system has two characteristics that change it almost completely. The first is that the issuers of mortgage bonds remain responsible for making payments on them. This avoids a flaw that was so painfully exposed in America's mortgage market: lax lending is encouraged when the link is broken between those who sell mortgages and those who bear the risk of default.

The second feature of the Danish system is that mortgage-holders can also buy the bonds in the market and use them to redeem their mortgages. This is useful if a rise in interest rates (or a fall in house prices) causes mortgage-backed bonds to trade at a discount. Redeeming their bonds allows homeowners to reduce the amount they owe. In America, for instance, mortgage-backed securities have fallen far below their fundamental value in thinly traded markets, partly because the people who would benefit most from buying them have no mechanism to do so. "Everybody can buy that bond at a discount except that one guy who is most involved with the loan, the homeowner," says Alan Boyce, a mortgage expert who has worked with George Soros, an investor and philanthropist, on promoting the Danish model in emerging markets. In Denmark, by contrast, a fall in the value of mortgage bonds usually encourages homeowners to snap them up to redeem their own mortgages, as is happening now.

Although this might seem to make such bonds less attractive to investors, in practice it seems to have done the opposite. Ted Lord of Barclays Capital, an investment bank, says that Danish investors see their country's mortgage bonds as no more risky than their government's debt. Regulations limit the amount that can be loaned to homeowners to no more than 80% of the value of the home. Denmark's legal system also makes it easy for banks to seize the homes of defaulters.

It is not clear that the Danish model would work as well in countries where property markets are less homogenous. But its admirers are gaining ground. "If you need systemic change, as I believe you do, you may as well go for something that is vastly superior," says Mr Soros.

The Madoff scandal

Follow the feeders

Dec 30th 2008 | NEW YORK
From The Economist print edition

The crucial roles played by credulous middlemen and clueless regulators

A WEEK after Bernard Madoff's vast alleged Ponzi scheme came to light in mid-December, a thief made off with a $10,000 copper statue from his Florida estate. Since then, dozens of Madoff-related items have appeared for sale on eBay, a website, including a disaster-recovery kit for employees of his securities firm and opera glasses emblazoned with its logo.

That a few plucky souls are profiting from Wall Street's biggest fraud will be scant consolation to the hapless hordes of charities, foundations, banks and rich individuals who fell for Mr Madoff's charms, and whose declared losses now top $30 billion. An embarrassingly large number of the victims were supposed to have been highly sophisticated. Fresh reports put losses for customers of Credit Suisse, for instance, at up to SFr1 billion ($956m). For some of those who led clients to the slaughter, the pain has proven too much. René-Thierry Magon de la Villehuchet, an aristocratic Frenchman who had parked $1.5 billion with Mr Madoff, most of it from wealthy Europeans, was found dead in his office on December 23rd in an apparent suicide, his wrists slit using a boxcutter.

Mr Villehuchet's firm, Access International, was part of a motley network of "feeder funds" that funnelled many or all of their assets to Mr Madoff. The biggest had no problem attracting clients, who were comforted by the gold-plated names behind them. Banco Santander, for instance, helped to suck in billions from wealthy Spaniards and Latin Americans.

Investigators are looking into what, if anything, these middlemen knew about the deception, and what they told clients about their links to Mr Madoff. Fairfield Greenwich, an investment firm that sent more than $7 billion his way, had disclosed that it considered his services "essential". Others were coyer. In a lawsuit, New York Law School contends that it would never have invested $3m with Ascot Partners had it known that the fund was charging hefty fees merely to stick all its eggs in one basket. Some were clearly duped along with their clients: Mr Villehuchet lost a good chunk of his personal wealth. The funds' auditors are also under fire. KPMG has been named as a defendant in a suit against Tremont, another manager.

Regulators, too, face awkward questions. The Securities and Exchange Commission (SEC) gave short shrift to those who suspected him of wrongdoing—including Harry Markopolos, an erstwhile rival who in 2005 sent the commission a 19-page analysis entitled "The world's largest hedge fund is a fraud". The report listed 29 "red flags" that, taken together, strongly suggested the Madoff operation's returns were either fictitious or down to front-running (trading for one's own account ahead of filling client orders).

Explaining its failures is a task that will fall to the SEC's incoming chairwoman, Mary Schapiro. But the commission can partially redeem itself by quickly getting to the bottom of some unanswered questions. Who, apart from Mr Madoff, was party to the scam? When did it start? And how much money is left? Much of the $50 billion that he has confessed to losing was phantom profit that only existed on customers' account statements. But that fact, like the art theft and the eBay sales, provides little comfort. Real or not, it was money they thought was theirs.

Bank strategy

Return to wealth

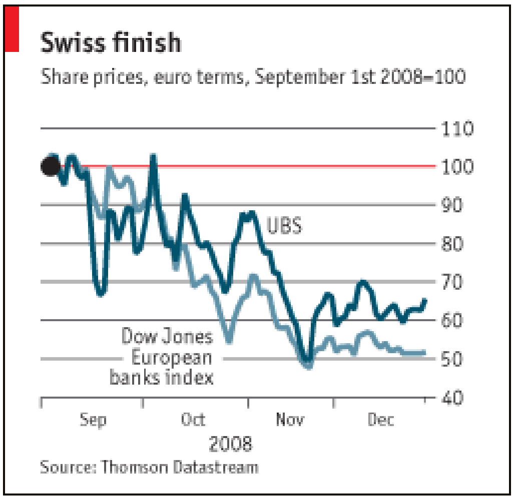
Dec 30th 2008 | ZURICH
From The Economist print edition

UBS has had a terrible crisis. That may help it have a better aftermath

"FAIL fast, fail early" is a management mantra in many industries. Identify the projects that will not pay off quickly, and the costs of failure are capped. Banks have developed their own version of this rule—"fail completely, fail catastrophically"—but one of the earliest victims of the crisis may yet be among the first to recover.

UBS was one of the first to feel the effects of America's subprime meltdown. That had some advantages. The Swiss bank started raising capital while private money was still available (although it has since had to call on government help). It installed a new leadership team relatively early. And it cut staff numbers hard, which will help during chilly times ahead.

True, UBS is also fortunate in not having big loan books to drag it down as the real economy sinks. That helps to explain why the bank's share price has outperformed an index of European banks over the past four months (see chart). But it has taken other steps which may point the way forward for the rest of the industry.



Start with the state of its balance-sheet, which is now cleaner than those of most of its investment-banking peers. The bank got a huge helping-hand from the Swiss central bank, which agreed in October to house up to $60 billion of UBS's bad assets in a separate entity. Analysts at Morgan Stanley reckon that UBS now has the lowest ratio of problem assets to tangible common equity, a particularly pure measure of capital, of any of the big European and American wholesale banks. The idea of the "bad bank" may yet win more traction elsewhere because of the UBS example.

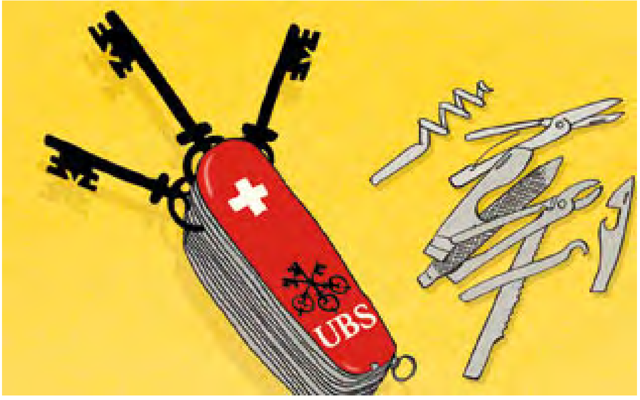
UBS has done more than spruce up its books. It has also shrunk them. The value of its assets has come down by a whopping SFr590 billion ($550 billion) since the second quarter of 2007. Most of that reduction has come not from write-downs or asset transfers but from running off short-term trading assets. UBS is already pretty close to meeting the 3% leverage ratio initially imposed upon it (and Credit Suisse) by the Swiss authorities. The people who run banks used to crow about growth in assets; now they plot their reduction.

These changes do not protect UBS from harm. The bank retains a significant gross position in leveraged loans, for example, and hedging is difficult for everyone when markets are so volatile. Despite the reduction in assets, the bank remains leveraged to a huge degree. Its balance-sheet at the end of the third quarter was still $2 trillion. Marcel Rohner, the bank's chief executive, gives warning against reading too much into the volume of nominal assets. Buy a share and sell a call option on that same share, he says, and your balance-sheet has grown but your risk has not.

Maybe so, but investors are right to question the ability of banks to judge risks precisely. That lack of certainty extends within UBS, which promises to become a more humble institution as well as a smaller one. The bank has made several changes to its governance under the guidance of Peter Kurer, its chairman.

A self-excoriating review of the bank's failures of risk management in April was followed by the abolition of the chairman's office, a power centre developed under Marcel Ospel, Mr Kurer's immediate predecessor. The upshot has been much greater contact between outside board members and executives than before.

Illustration by S. Kambayashi



The bank is also in the process of separating into three autonomous units: wealth management, investment banking and asset management. Central to this reorganisation is an overhaul of the bank's internal funding mechanisms—many of UBS's problems lay in absurdly cheap financing for its investment bank. Such reforms do not impress everyone. "It just brings UBS out of the dunce's corner," says an analyst. But other changes are more pioneering. In November, UBS unveiled a new set of pay policies that included the idea of a "malus", or negative bonus, a way of clawing back deferred compensation in the event of poor performance.

Importantly, the reorganisation has also made it clearer what UBS is for. The bank has affirmed the importance of its market-leading wealth-management arm as its main franchise. That was not always the case. "It was less clear under Ospel that wealth management was the core business," says a former UBS executive.

The investment bank is ditching proprietary trading and concentrating on client-focused activities: "We will end the blurring between risk-takers and flow businesses that we have seen in past years," says Mr Kurer. It is also zeroing in on areas where it has particular strengths, such as equities and foreign-exchange trading. That marks a shift. UBS's disastrous foray into mortgage-backed securities aimed to close the gap in areas where it lagged. The revamped bank will not try to compete in every market, although that is easier said than done given client demands. "The unanswered question is whether you can be a good golfer with only three clubs," says Jeremy Sigee of Citigroup.

UBS is nowhere near being out of the woods. The biggest uncertainty it faces is the extent of the reputational damage that its wealth-management business has suffered. But if UBS can stanch the outflows that it started to see in the second quarter of 2008, and reach a deal with the American authorities in their investigation into its offshore services, it may soon dare to think about future success. Come what may, its efforts to become a smaller, less cocksure and more focused bank chart a route to recovery for many others.

Economics focus

Diagnosing depression

Dec 30th 2008
From The Economist print edition

What is the difference between a recession and a depression?

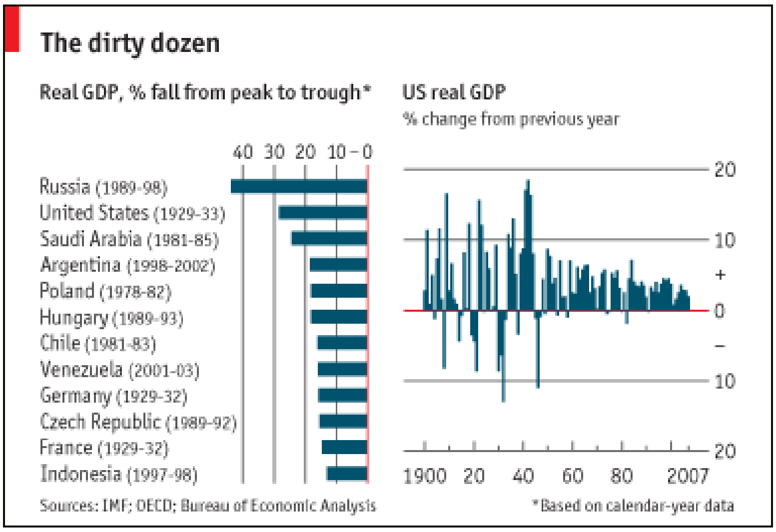
THE word "depression" is popping up more often than at any time in the past 60 years, but what exactly does it mean? The popular rule of thumb for a recession is two consecutive quarters of falling GDP. America's National Bureau of Economic Research has officially declared a recession based on a more rigorous analysis of a range of economic indicators. But there is no widely accepted definition of depression. So how severe does this current slump have to get before it warrants the "D" word?

A search on the internet suggests two principal criteria for distinguishing a depression from a recession: a decline in real GDP that exceeds 10%, or one that lasts more than three years. America's Great Depression qualifies on both counts, with GDP falling by around 30% between 1929 and 1933. Output also fell by 13% during 1937 and 1938. The Great Depression was America's deepest economic slump (excluding those related to wars), but at 43 months it was not the longest: that dubious honour goes to the one in 1873-79, which lasted 65 months.

Japan's "lost decade" in the 1990s was not a depression, according to these criteria, because the largest peak-to-trough decline in real GDP was only 3.4%, over the two years to March 1999. Since the second world war, only one developed economy has suffered a drop in GDP of more than 10%: Finland's contracted by 11% during the three years to 1993, mainly thanks to the collapse of the Soviet Union, then its biggest trading partner.

Emerging economies, however, have been much more depression-prone. Among the 25 emerging economies covered each week in the back pages of *The Economist*, there have been no fewer than 13 instances in the past 30 years of a decline in real GDP of more than 10%. Argentina and Poland were afflicted twice. Indonesia, Malaysia and Thailand all suffered double-digit drops in output during the Asian crisis of 1997-98, and Russia's GDP shrank by a shocking 45% between 1990 and 1998.

The left-hand chart shows *The Economist*'s ranking of slumps in developed and emerging economies over the past century. It excludes those during wartime (both Germany and Japan, for example, saw output plunge by 50% or more after 1944). The depressions in Germany and France in the 1930s make it into the top 12, but not that in Britain, where GDP fell by a relatively modest 6%.



Before the 1930s all economic downturns were commonly called depressions. The term "recession" was coined later to avoid stirring up nasty memories. Even before the Great Depression, downturns were typically much deeper and longer than they are today (see right-hand chart). One reason why recessions

have become milder is higher government spending. In recessions governments, unlike firms, do not slash spending and jobs, so they help to stabilise the economy; and income taxes automatically fall and unemployment benefits rise, helping to support incomes. Another reason is that in the late 19th and early 20th centuries, when countries were on the gold standard, the money supply usually shrank during recessions, exacerbating the downturn. Waves of bank failures also often made things worse.

But a recent analysis by Saul Eslake, chief economist at ANZ bank, concludes that the difference between a recession and a depression is more than simply one of size or duration. The cause of the downturn also matters. A standard recession usually follows a period of tight monetary policy, but a depression is the result of a bursting asset and credit bubble, a contraction in credit, and a decline in the general price level. In the Great Depression average prices in America fell by one-quarter, and nominal GDP ended up shrinking by almost half. America's worst recessions before the second world war were all associated with financial panics and falling prices: in both 1893-94 and 1907-08 real GDP declined by almost 10%; in 1919-21, it fell by 13%.

The economic slumps that followed the collapse of the Soviet Union and those during the Asian crisis were not really depressions, argues Mr Eslake, because inflation increased sharply. On the other hand, Japan's experience in the late 1990s, when nominal GDP shrank for several years, may qualify. A depression, suggests Mr Eslake, does not have to be "Great" in the 1930s sense. On his definition, depressions, like recessions, can be mild or severe.

Another important implication of this distinction between a recession and a depression is that they call for different policy responses. A recession triggered by tight monetary policy can be cured by lower interest rates, but fiscal policy tends to be less effective because of the lags involved. By contrast, in a depression caused by falling asset prices, a credit crunch and deflation, conventional monetary policy is much less potent than fiscal policy.

Yes, we have no bananas

Where does that leave us today? America's GDP may have fallen by an annualised 6% in the fourth quarter of 2008, but most economists dismiss the likelihood of a 1930s-style depression or a repeat of Japan in the 1990s, because policymakers are unlikely to repeat the mistakes of the past. In the Great Depression, the Fed let hundreds of banks fail and the money supply shrink by one-third, while the government tried to balance its budget by cutting spending and raising taxes. America's monetary and fiscal easing this time has been more aggressive than Japan's in the 1990s.

However, these reassurances come from many of the same economists who said that a nationwide fall in American house prices was impossible and that financial innovation had made the financial system more resilient. Hopefully, they will be right this time. But this crisis was caused by the largest asset-price and credit bubble in history—even bigger than that in Japan in the late 1980s or America in the late 1920s. Policymakers will not make the same mistakes as in the 1930s, but they may make new ones.

In 1978 Alfred Kahn, one of Jimmy Carter's economic advisers, was chided by the president for scaring people by warning of a looming depression. Mr Kahn, in his next speech, simply replaced the offending word, saying "We're in danger of having the worst banana in 45 years." America's economy once again has a distinct whiff of bananas.

Numbers

Easy as 1, 2, 3

Dec 30th 2008
From The Economist print edition

People come into the world ready to count its wonders

Illustration by Jon Berkley

THE baby is just one day old and has not yet left hospital. She is quiet but alert. Twenty centimetres from her face researchers have placed a white card with two black spots on it. She stares at it intently. A researcher removes the card and replaces it by another, this time with the spots differently spaced. As the cards alternate, her gaze starts to wander—until a third, with three black spots, is presented. Her gaze returns: she looks at it for twice as long as she did at the previous card. Can she tell that the number two is different from three, just 24 hours after coming into the world?

Or do newborns simply prefer more to fewer? The same experiment, but with three spots preceding two, shows the same revival of interest when the number of spots changes. Perhaps it is just the newness? When slightly older babies were shown cards with pictures of household objects instead of dots (a comb, a key, an orange and so on), changing the number of items had an effect separate from changing the items themselves. Could it be the pattern that two things make, as opposed to three? No again. Babies paid more attention to rectangles moving randomly on a screen when their number changed from two to three, or vice versa. The effect even crosses between senses. Babies who were repeatedly shown two spots perked up more when they then heard three drumbeats than when they heard just two; likewise when the researchers started with drumbeats and moved to spots.

“One great blooming, buzzing confusion” was how William James, a 19th-century psychologist, described the way he thought the world looked to a newborn baby. But these experiments, and many others like them over the past few decades, have convinced researchers that, on the contrary, babies are born with many ways of making sense of what they see and hear. The trick is to use their love of novelty to work out what is happening inside their brains: when shown the same things repeatedly, babies’ eyes wander; when the scene changes, their gaze returns. That makes visible what to them constitutes a change in the world around them worthy of notice.

Dot and carry one

One of those ways of understanding the world is by number. People are born with an innate sense of how many items there are in small collections. Experiments in which older children and adults are shown randomly arranged dots and asked to say quickly how many there are show this sense is retained throughout life. Up to three or four items, and the number is immediately visible without counting. Within a limited range, humans are born arithmeticians, too. When babies a few months old were shown dolls

placed and removed from behind a screen they had correct expectations of the number of dolls they would see when the curtain was drawn aside, and were surprised when trickery meant those expectations were violated. In fact, they were more surprised to see the wrong number of dolls than the right number, but different-looking ones.

Some animals also seem able to perceive and understand small numbers. From the 1930s Otto Köhler, a German zoologist, trained ravens to open boxes with the same number of dots on the lid as a card held by a researcher. One raven learnt to distinguish two, three, four, five and six dots. Rats can learn to ignore a certain number of doors in a maze before choosing which one to enter. Chimpanzees have been taught to match the numerals 1 to 6 to the number of objects in a display and to find oranges hidden in two different places and point to the numeral that indicates their total number.

Even more strikingly, some wild animals appear to understand and use numerical facts without training. Karen McComb of the University of Sussex, in England, played a variety of recordings of lions roaring at night in the Serengeti National Park—different numbers of lions; their roars in sequence and overlapping; and so on. She wanted to test the theory that, since fights between lions are very costly, when lions heard large numbers of intruders' roars they would withdraw unless they were in superior numbers. The best explanation of what she observed was that lions estimated the number of intruders from the number of different-sounding roars, compared that number to the number in their own group and then decided whether to attack or slink away.

That humans (and perhaps other animals) come ready-supplied with numbers contradicts two popular rival theories: the Platonic and the constructivist. Plato thought numbers (and geometric objects such as circles) existed in some abstract, eternal and perfect realm, of which mortals were granted only an occasional glimpse. Constructivists follow Jean Piaget, a Swiss child psychologist, in thinking that by moving things in the real world around and observing the results people "construct" an understanding of number in the first few years of their lives. The distinction, though abstract, has practical relevance too. Could "maths-phobes" be born, rather than made? Can they be cured? And could mathematics be taught better to all?

Numbers on the brain

Brian Butterworth, a cognitive neuroscientist at University College London, has spent much of his career teasing out which bits of humans' understanding of numbers are innate—and which learnt, and how. He thinks people are born with brain circuits that are dedicated to recognising and understanding the number of items in small collections. On this foundation an entire "number sense" is built, as children realise that bigger and bigger numbers can be reached by adding "one more" and learn by experience how these bigger numbers behave.

His most recent work has confirmed that to develop a better understanding of numbers than that of a newborn baby, it is not necessary to be able to count with words. He collaborated with some Australian researchers to test aboriginal children in the country's Northern Territory who were monolingual speakers of one of two languages, Warlpiri and Anindilyakwa, in which the only number words are one, two, few and many. (Words for numbers have generally arisen when and where people grow crops or keep herds; hunter-gatherer bands, who have no herds or other stores of wealth, need not keep track of surpluses, or balances of trade.)

Since the children were too old for the baby-staring trick, but unable to answer the question: "How many?", researchers laid out counters, then put them away and asked the children to "do as I did". To check that they were using the number of the counters, rather than mimicking their pattern, the researchers banged sticks together and asked them to "make the counters like the noises". The children performed about as well as English-speaking aboriginal children living in Melbourne.

Historically, one common method of counting has been to use body parts to keep track of a running total. The base-ten system used in modern arithmetic originates with the fingers, and linguistic traces of that fact remain in the similarity of "five", "finger" and "fist", and the dual meaning of "digit". Some think that the original inhabitants of Europe were 20-counters who used fingers and toes—the use of "score" for both 20 and keeping count may be a remnant. And there remain tribal peoples who have elaborate methods using eyes, nostrils, elbows and so on.

Illustration by Jon Berkley

Arithmetically, bases 12, 24 and 60 have their appeal (they have more factors than ten's measly two). All three are still employed when telling the time, and 4,000 years ago the Babylonians used

base 60 to do some pretty advanced mathematics. But fingers are particularly obvious and useful for keeping count. In another recent piece of work, Dr Butterworth and Robert Reeve of the University of Melbourne watched (English-speaking) five- and six-year-olds counting and doing simple sums. Most used their fingers, but around a quarter did not. Slightly more than half of the non-finger-counters were good arithmeticians, who presumably had outgrown needing to use their fingers. The others, who were decidedly weak, did not seem to have realised that their fingers could help.

More than 80 years ago Josef Gerstmann, an Austrian neurologist, described a set of problems that seem to arise simultaneously in people who have suffered damage to the left parietal lobe of the brain: finding writing difficult or impossible, being unable to understand arithmetic or tell right from left, and having difficulty in identifying one's fingers. There is still no agreement on whether these symptoms constitute a syndrome, but the bits of the brain used for storing facts about numbers and for representing the fingers are close to each other. Mental representations of numbers and of fingers may therefore be functionally connected.

In 2005 Dr Butterworth and his colleagues asked people to perform tasks that required dexterity, and others that involved matching pairs of numbers, while the area of their parietal lobes known as the left angular gyrus was stimulated by a magnetic field. Dexterity and recall of facts involving numbers were both impaired. So the connection between numbers and fingers may be more profound than the handiness of fingers for keeping count.

Easy for some

If numbers had been invented by some prehistoric genius, then learning how to use them would be a matter of intelligence and practice. But what comes naturally to most is lacking in a few. Just as some people are born colour-blind, or lose colour vision after a brain injury, others are "number-blind": unable to comprehend what everyone else sees effortlessly. That deficit may leave other abilities—including other mathematical abilities—unimpaired.

Dr Butterworth tells the story of Charles, a young man with lifelong mathematical difficulties. He could add two one-digit numbers only if he used his fingers. Sums involving two-digit numbers or multiplication or subtraction were beyond him. When shopping, he understood neither prices nor change. Tests showed he was not merely maths-phobic. Not only was he far slower than the average, but the pattern of his results was strange.

In one test Charles was shown a pair of digits and asked to name the larger number. The bigger the gap, the faster most people can do this: they say "nine" faster when shown 9 and 2 than when shown 9 and 7. But with Charles, the reverse was the case—and the researchers could see why. Rather than telling the answer directly, he was counting on from one number (on his fingers) until he got to the other, which meant he must have started at the smaller, or he got to ten, in which case he must have started at the bigger. Most strikingly, he lacked the fundamental numerical ability possessed by most newborns: being able to tell the number of objects in a small group simply by looking. When asked how many dots were on a sheet of paper, he counted on his fingers—even when there were only two.

Charles's deficit, though severe, seemed to affect his numerical abilities alone. Numerical deficits in people of otherwise normal abilities can be even more striking in cases of brain damage. Lisa Cipolotti, a neuropsychologist, studied a Signora Gaddi, who used to run a hotel and keep its accounts. After a stroke she could find the number of things in a small group only by counting—when asked how many arms a crucifix had, she got Dr Cipolotti to hold out her arms so she could count them. Signora Gaddi's problems seemed to affect only numbers. She could still read, speak and reason, remember historical and geographical facts, and order objects by their physical size.

In fact, Signora Gaddi's difficulties went even deeper than Charles's. The stroke which damaged her innate understanding of small numbers also robbed her of the entire numerical edifice built on that foundation.

For her, numbers stopped at four. When asked to count up from one, she got to four and no further. If there were more than four dots on a page she could not count them. She could not say how old she was or how many days were in a week, or even tell the time.

“I hated maths at school”

From Barbie dolls programmed to say “math class is tough” to ministers of state who will parse and analyse a sentence but refuse to answer “what’s half of three-quarters?”, maths-phobia is everywhere. One reason is that mathematics builds on itself, so that one missed step can lead to a lifetime of failure. Nor does it help that sums have unambiguously right and wrong answers, making it all too clear to schoolmates just what a child does and doesn’t know. But amidst the stragglers are those whose problem runs deeper than fear and loathing: the “dyscalculic”, as researchers have taken to calling those whose number sense is impaired. Numerical tests given to a representative sample of children in Havana suggest their proportion in the general population is 3-6%.

Sceptics may feel this is a learning disability too far—another chance for middle-class parents to classify little Johnny as different, rather than thick. And perhaps dyscalculia will collect a penumbra of dubious cases around it, as dyslexia has. But perhaps not. Dyslexia manifests itself as a difficulty with a highly unnatural activity: reading. The best single predictor of dyscalculia, by contrast, is abnormal slowness in counting a few dots on a page, a task that most find trivially easy.

The researchers at University College have created a dyscalculia screener, which they think should be used to test all children early in life. With luck, diagnosis will progress to treatment: they are working on a remedial programme too. But even if dyscalculics never fully develop the sense of numbers they were born without, their mathematical careers need not be over before they have started. There are entire fields of mathematics where numerical manipulation is peripheral: logic and geometry, for example. Dr Butterworth recalls an eminent geometrician (“I won’t say his name; it would embarrass him”) who approached him after he had given a talk on his research. “He said: ‘You know, I have always been dreadful at arithmetic.’ So I asked: ‘What’s seven eights?’ He just mumbled: ‘Oh, that’s trivial, there’s an algorithm for that,’ and walked away.”

More numbers

When 1, 2, 3... is not enough

Dec 30th 2008
From The Economist print edition

Arguments over what counts as a number

Illustration by Jon Berkley

EVERY now and then mathematics has been convulsed by a row, not over where numbers come from—but over what should be allowed to count as one. Two millennia ago, inspired by such discoveries as the relationship between musical pitch and the lengths of vibrating strings (double the length of the string and the note falls by an octave), the followers of Pythagoras decided that all of Nature must be expressible as ratios of whole numbers. Their discovery that one very simple geometric ratio—that of the length of a square's diagonal to the length of its side—could not was, according to legend, so shocking that it was kept a secret on pain of death.

Such "irrational" numbers were bad enough, but what to make of negative ones? Although they had been widely employed since at least the mid-1500s, in particular to represent debts, many mathematicians refused to use them, claiming that quantities less than zero were an absurdity. A number "submits to be taken away from another number greater than itself but to attempt to take it away from a number less than itself is ridiculous," wrote William Frend, a Cambridge mathematician, in 1796.

And what, too, to make of the square roots of negative numbers? Since both negative and positive numbers, when multiplied by themselves, give positive answers, such numbers were labelled "imaginary", and regarded by many as meaningless. "The symbol -1 is beyond the power of arithmetical computation," wrote Robert Woodhouse, another Cambridge mathematician, in 1801. It took the brilliant idea, of Carl Friedrich Gauss and others, of regarding imaginary numbers as perpendicular to "real" ones before the latest variety of number could be accepted into the swelling menagerie.

By the end of the 19th century irrational, negative and imaginary numbers were widely accepted—not least because they were so very useful; turning one's back on such delights meant voluntarily abstaining from doing some very interesting mathematics. But still the numerical controversies raged. Georg Cantor, a German mathematician, had developed a "transfinite arithmetic" to calculate with the infinitely many infinities he had discovered, each infinitely larger than the previous one. Leopold Kronecker, a prominent German mathematician (and one of Cantor's teachers) described his student as a "scientific charlatan", a "renegade" and a "corrupter of youth"; his work was a "disease" from which mathematics would surely be cured some day, thought French mathematician Henri Poincaré.

Between 1910 and 1913 Bertrand Russell and Alfred North Whitehead published their three-volume "Principia Mathematica", in which, among other things, they sought to solve certain paradoxes that arose from Cantor's work. Their main aim, though, was to provide a firm foundation for all of mathematics—a hopeless quest, it turned out, when Kurt Gödel published his "incompleteness theorem" in 1931.

Russell and Whitehead suggested no new numbers or arithmetical rules, but they did try to show how the simplest numbers—integers—could be built using the principles of logic. But the methods they proposed for even the simplest sums were desperately cumbersome. And for the proof that 1+1=2, readers had to wait until volume II, page 83.

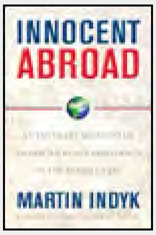
America and the Middle East

How to learn from history

Dec 30th 2008
From The Economist print edition

What Barack Obama can learn from Bill Clinton's failed peacemaking

Innocent Abroad: An Intimate History of American Peace Diplomacy in the Middle East
By Martin Indyk



Simon & Schuster; 512 pages; $30

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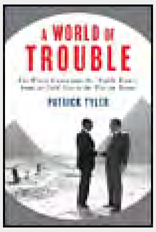
A World of Trouble: The White House and the Middle East—From the Cold War to the War on Terror
By Patrick Tyler



Farrar, Straus and Giroux; 640 pages; $30. To be published in Britain by Portobello Books in February

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AP

IF ONLY men could learn from history. Alas, experience is a "lantern on the stern, which shines only on the waves behind us". It is fitting that Martin Indyk, one of America's most seasoned diplomats in the Middle East, starts his insider's account of peacemaking under Bill Clinton with this famous passage by Samuel Taylor Coleridge. For if Barack Obama intends to make peace between Israel and the Arabs, his first job is to understand why Mr Clinton, the last president to make a real effort to do so, discovered that he could not.

Mr Clinton faced far riper circumstances in the 1990s than Mr Obama inherits today. He had in Yitzhak Rabin, Israel's prime minister, a visionary leader willing to return the Golan Heights to Syria and negotiate directly with Yasser Arafat, whom previous Israeli leaders considered an incorrigible terrorist. America wielded vast regional influence following its routing of Saddam Hussein in Kuwait and the collapse of the Soviet Union. Arafat himself, having alienated many Arab leaders by supporting Saddam, was short of friends, cash and alternatives; the "freedom fighter" seemed anxious to give diplomacy a chance.

Mr Indyk claims that the Clinton administration invested more time and prestige on this than on any other area of foreign policy. It is certainly the case that most of the Americans and Israelis who took part in the Camp David summit of 2000, and who have subsequently written accounts of what went wrong, blame Arafat rather than themselves for its collapse.

Since the members of Mr Clinton's peace team were Jewish (Mr Indyk says one Arab journalist called them "the five rabbis"), their neutrality is sometimes questioned. Mr Indyk himself, originally an Australian, once worked for the chief Israeli lobby in America, the American Israel Public Affairs Committee, before becoming a diplomat and serving twice as America's ambassador to Israel. Yet he admits mistakes and avoids blaming Arafat alone, confessing that the "dark side" of the "innocent optimism" with which America tackled diplomacy in the Middle East was a naivety bred of arrogance. The main impression his book leaves is of the unforgiving complexity of this conflict, in a region where many conflicts connect together, and where the interplay of personality and politics can so often trip up history.

One problem, for example, was that Rabin was in a hurry. Mr Clinton was thrilled to hear in 1993 that the former general was willing to cede the Golan Heights for peace with Syria. But Rabin did not reveal that he was also negotiating secretly in Oslo with Arafat. So while Mr Clinton focused merrily on squeezing a Syrian deal out of the late Hafez al-Assad, Rabin was in the end more enticed by the cheaper (since it pushed Palestinian statehood into the future) and quicker bargain he thought he could strike with Arafat. In the event, the Syrian track failed. The deal with Arafat, which was consummated with pomp and sentiment in the Rose Garden handshake of September 1993, was deeply flawed.

Mr Indyk believes the failure of a second stab at a Syrian deal by Ehud Barak, another Israeli prime minister in a hurry, severely weakened Mr Clinton's hand. With the Syrian track dead, Arafat knew as he set off reluctantly for the Camp David summit in 2000 that the hopes of Mr Clinton and Mr Barak now depended on him. Arafat feared being caught in a pincer and dared not make too big a compromise just as Palestinians were starting to admire Hizbullah's success in ousting Israel from Lebanon by force and not diplomacy.

So Mr Indyk thinks that Arafat arrived at Camp David determined to avoid being cornered. And when Mr

Barak's otherwise big concessions stopped short of yielding Palestinian sovereignty over Jerusalem's Haram al-Sharif, where the great mosques stand, Arafat got the pretext he needed. He could walk away as an Arab hero and await a better offer. A better offer, including sovereignty over the Haram, duly came in "the Clinton parameters". But by then a new *intifada* had caught fire, Arafat could not bring himself to answer with a clear yes and the moment passed. The Palestinian leaders, says Mr Indyk, later misled their people into believing that Mr Clinton had offered only three disconnected cantons on the West Bank. In fact he had offered the whole of Gaza, 94-96% of the West Bank, 1-3% compensation for the rest, the Arab parts of Jerusalem and sovereignty over the Haram.

By pushing Oslo even though America had wanted Syria first, says Mr Indyk, Israel showed that the Israeli tail could wag the American dog. But he does not say as much as he is supremely qualified to about the Israel lobby's influence on diplomacy, beyond debunking the idea that this is the main thing that makes presidents go easy on Israel. He says shared values and interests, and long experience of co-operation, not least in intelligence, matter more. Allied to this is a tendency in peacemaking for America to defer to Israel's ideas "because its ally is the one that has to make the tangible concessions of territory".

Should the next president pile greater pressure on Israel? For all Rabin's courage, notes Mr Indyk, he was "deeply cautious" towards the Jewish settlers in the occupied territories because he wanted to preserve his domestic political capital. Mr Indyk now thinks America should stand up to Israeli leaders when they plead political trouble at home to fend off pressure to curb settlements. He admits that Mr Clinton went easy not only because he sympathised with the predicament of his Israeli friends but also because George Bush senior's harsh confrontation with Israel over settlements in the 1990s was considered later to have taken a serious toll of the president's domestic support.

If Mr Indyk is a consummate insider, Patrick Tyler is a professional outsider: a reporter who has worked for the *New York Times* and *Washington Post* and who is best known for his 1999 book, "A Great Wall: Six Presidents and China". His new work, "A World of Trouble: The White House and the Middle East" uses the same format to tell America's Middle Eastern story from General Eisenhower to George Bush.

The book has the merits and defects you might expect. It is fast-paced and well-sourced but runs right from before the six-day war of 1967 to the present, and so has often to oversimplify. Mr Tyler may also be a little too fond of glib judgments: Mr Clinton's peacemaking failed because he lacked the necessary "unwavering principle, and political discipline"; the invasion of Iraq in 2003 was "a fraudulent act of militarism"; and so forth. Still, for anyone needing a reminder of how America got into its present pickle in the region, this is a brisk, enjoyable way to get it. At times, as befits the Middle East, it reads almost like a thriller. Mr Obama had better take a deep breath before diving in.

Innocent Abroad: An Intimate History of American Peace Diplomacy in the Middle East.
By Martin Indyk.
Simon & Schuster; 512 pages; $30

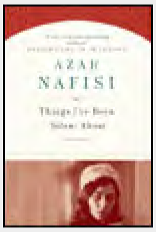
A World of Trouble: The White House and the Middle East—From the Cold War to the War on Terror.
By Patrick Tyler.
Farrar, Straus and Giroux; 640 pages; $30. To be published in Britain by Portobello Books in February

Memoir of Iran

Reading Lolita again

Dec 30th 2008
From The Economist print edition

Things I've Been Silent About: Memories
By Azar Nafisi



Random House; 336 pages; $27. To be published in Britain by William Heinemann in April

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AZAR NAFISI'S new book is both prequel and sequel to her earlier memoir, "Reading Lolita in Tehran". Her latest work, "Things I've Been Silent About", reveals some inconvenient truths about Ms Nafisi's upbringing that she chose to keep private while her parents were alive. The book is less inventive than her earlier work, which was not so much about the author than about the contradictions of post-revolutionary Iran. But it still has appeal as a portrait of a family and a country that are at once alluring and deeply dysfunctional.

Reuters

Spurred to excel

All happy families resemble each other, Tolstoy wrote, while unhappy families are each unhappy in their own way. For Ms Nafisi, the unhappiness flows primarily from her mother, Nezhat, a beautiful but demanding woman who lost her own mother at an early age and finds it hard to love and be loved in return. She exaggerates the merits of a first husband who died shortly after their marriage, browbeats a second to the point that he is unfaithful, and tries to force their daughter to inform on her father. She assembles an odd collection of acquaintances for Friday coffees and has trouble curbing her tongue. Ms Nafisi writes of her mother that "each person would pass her on to the next, like a dangerous explosive, hoping she would blow up somewhere else." Yet Nezhat spurs her daughter to excel, accompanying her to England for education, bragging about her accomplishments and frequently plopping chocolates and orange segments into her mouth.

Nezhat is a metaphor for Iran: a person of enormous promise who never fulfils her potential. The smartest student in her school, she should have been a doctor, but instead has become "another intelligent woman gone to waste". She compensates by seeking to control her domain but, like Iran, alienates those who love her and pushes them away.

Ms Nafisi's father, Ahmad, is easier but no less tragic. Nezhat makes her child stubborn and determined to excel almost out of spite; Ahmad provides emotional support and gives his daughter a love of literature, especially the great works of the Persian past. A talented bureaucrat, Ahmad becomes mayor of Tehran but is jailed for several years in the 1960s on trumped-up corruption charges. The injustice spurs the family to support the opposition that eventually topples the monarchy, only to face an even more capricious and repressive regime.

Ms Nafisi's earlier memoir did an excellent job of exploring the absurdities of life under the ayatollahs, using the vehicle of a literary discussion group that dissected the works of writers such as Vladimir Nabokov and Henry James. This book adds details about the run-up to the revolution but covers familiar ground for those already versed in Iranian history. Ms Nafisi's own path is full of experimentation and missteps. Studying abroad, she joins a group of would-be Iranian Maoists in Norman, Oklahoma. She marries young to escape her family, but the marriage fails. "In choosing to marry Mehdi, I had lied to myself and betrayed my own ideals of the kind of woman I aspired to be," she writes.

Eventually she remarries a more suitable intellectual. They stick it out through the Iran-Iraq war and the birth of two children, leaving for good a decade ago when Ms Nafisi received a fellowship from Johns Hopkins University. A luminary now in the exile community outside Washington, DC, Ms Nafisi appears to

have made peace with her family and her heritage. Her parents lived long enough to see her successful. The Iran of her childhood is gone but the one of her memories is a place no relative or ruler can destroy: a land of sweet shops, snowy mountains and heroes and heroines from a glorious if mythical past.

Things I’ve Been Silent About: Memories.
By Azar Nafisi.
Random House; 336 pages; $27. To be published in Britain by William Heinemann in April

Economist.com BOOKS & ARTS

Oliver Cromwell

Headless story

Dec 30th 2008
From The Economist print edition

BEHEADED posthumously, as punishment for his part in the execution of Charles I in 1649, Oliver Cromwell's fate after death matches his grippingly controversial life. Was it really his body that was buried in Westminster Abbey in 1658, with jarring pomp and ceremony? Was the same corpse exhumed and mutilated after Charles II came to the throne, ending Britain's brief experiment with republicanism and military rule? Was it really the Lord Protector's head that was rammed on a pike in Whitehall, to discourage regicides, only to be blown down in a gale and swiped by a soldier? And was it really that same head, battered and worm-eaten, with an iron spike still rammed through the skull, that became a souvenir, a vulgar curiosity, a treasured relic and was finally in 1960 secretly laid to rest in the chapel of Sidney Sussex College, Cambridge, where the young Cromwell briefly studied?

Cromwell's Head
By Jonathan Fitzgibbons

The National Archives; 238 pages; $22.95 and £12.99

Buy it at
Amazon.com
Amazon.co.uk

Jonathan Fitzgibbons answers these questions ably. The head is indubitably Cromwell's: though the provenance is a little cloudy in the early 18th century, it beggars belief that a fraudster of that era would be able to fool forensic science many years later. The body was embalmed before it was beheaded; and the skull measurements correspond almost exactly with extant portraits of the Lord Protector.

The interesting historical detective work, and some neat demolition of myths and conspiracy theories, bring Mr Fitzgibbons half-way through a short book. After that comes a potted history of the aftermath of the English civil war, starting with the botched scheming that led the maddeningly duplicitous Charles I to lose not only the military conflict but also his head.

The regime that succeeded him was an uneasy tussle between idealists and a would-be military junta. Cromwell himself, that walking paradox, was neither as austere nor as principled as portrayed in most textbooks. His behaviour was marked by an oddly prankish streak and outbursts of genuine jollity. His refusal of the crown was both his greatest achievement and his biggest mistake. The author sums up his subject's gravest weakness as "nihilistic overconfidence". Like so many other revolutionaries, his regime became tyrannical and collapsed when he died.

This work is part of a venture into the book trade by Britain's National Archives. Unlike stingy private-sector publishers these days, they have indulged in such rarities as a proper index, footnotes, bibliography and colour plates. It is a pity that they seem to have skipped the copy-editing. Cromwell appears chattily as "Oliver". "May" and "might" are used interchangeably. An Oxford anatomy professor is said to have "pouring" over documents in 1875 to expose a fake. Britain's republican hero deserves better.

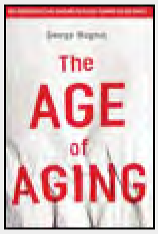
Cromwell's Head.
By Jonathan Fitzgibbons.
The National Archives; 238 pages; $22.95 and £12.99

Demographics

Greying globe

Dec 30th 2008
From The Economist print edition

The Age of Aging: How Demographics are Changing the Global Economy and Our World
By George Magnus



John Wiley; 256 pages; $29.95 and £17.99

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EVERY age has its big demographic scares. In 1798, when the world's population was about 1 billion, Thomas Malthus published his "Essay on the Principle of Population", predicting that, thanks to mankind's enthusiastic procreation habits, by the middle of the 19th century there would no longer be enough food to go round. In the event, people happily continued both to multiply and to eat.

Indeed, in the early part of the 20th century, when the world's population had grown to double that at Malthus's time, fears started to run in the opposite direction: that people were having too few babies and mankind was in danger of dying out. The super-abundant baby-boomer generation after the second world war gave the lie to that. But by 1972 the argument had come full circle again. The Club of Rome, a global think-tank, produced a doom-laden report, "The Limits to Growth", which claimed that within less than a century a mixture of man-made pollution and resource shortages would once again cause widespread population decline. What the think-tankers had not reckoned with was the green revolution. By the start of the new millennium the world's total population had reached 6 billion. It is now expected to rise to nearly 9 billion by 2050.

But from the early 1990s the World Bank and others began to issue dire warnings about an entirely new scare, soon christened the "demographic time bomb". Thanks to a combination of growing longevity and falling birth rates, the average age of populations, first in the world's rich countries and, after a time lag, in emerging nations too, has been rising inexorably. By 2050 the world will have about 2 billion people aged over 60, three times as many as today. In parts of the rich world, mainly Japan and western Europe, that age group already makes up nearly a quarter of the population. By 2050 their share will rise to 30-40%, and even in the—much younger—developing world it will go up to 25-30%.

In other words, those of working age will have to support a vastly increased number of dependants. In rich countries there are now roughly four workers for every pensioner. By 2050 there will be little more than two. Those two will have to work mighty hard to keep that pensioner supplied with reasonable retirement benefits and decent health care unless something is done. And done soon: in western Europe the working population is likely to start shrinking as soon as next year or 2010. The same is true for China, which largely because of its one-child policy will grow old before it becomes properly rich.

There is no doubt that global greying will happen. Many of the people that will contribute to it have already been born, so short of some catastrophe that kills off large numbers of people, or some Viagra-fuelled leap in birth rates, population numbers and age composition can be predicted with fair accuracy for decades ahead. What remedies should be adopted it is much harder to say.

The pundits who have pronounced on this over the past decade or so fall roughly into three categories: those who claim that this is just another Malthusian scare story and can be sorted out with a few tweaks to retirement ages and pension policies; those who preach gloom and doom (a meltdown in asset prices, poverty in old age, health-care rationing and even intergenerational warfare as the young and the old slug it out for scarce resources); and those in the middle, who crunch the numbers and try to come up with sensible ideas to make their effect less grim.

This book falls firmly into the last category. It provides a clear, sober and well-written analysis of the problem, both in developed and developing countries, and runs through the options for heading off the worst effects. The biggest part of the solution lies in expanding the shrinking band of workers, mainly by getting people to retire later and persuading even more women to take up paid employment. At the same time more productivity will have to be squeezed out of the labour force that remains. And people will have to be persuaded to save a lot more for their old age.

None of this will be easy, particularly in a recession. But the biggest problem is timing. In order to head off the worst problems a few decades hence, action will need to be taken straight away. Yet politicians are elected for just a few years at a time. Will they have the guts to annoy voters by introducing tough measures now that will take decades to pay off?

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By George Magnus.
John Wiley; 256 pages; $29.95 and £17.99

The Metropolitan Museum of Art

Kid in a candy store

Dec 30th 2008 | NEW YORK
From The Economist print edition

The Metropolitan's new director gives his first interview

"I FEEL like Dorothy in 'The Wizard of Oz'; picked up by a whirlwind and dropped down in a land where everything is much more brightly coloured," says Thomas Campbell, who on January 1st became the new director and CEO of New York's Metropolitan Museum of Art. His description is both apt and unexpected.

Bloomberg News

Kid in a candy store

Until five months ago, the British-born 46-year-old, educated at Oxford University and London's Courtauld Institute of Art, was by his own account, "an open shirt, tweed jacket sort of guy". He liked to clear his diary to give time to his research and writing. Now he owns several new suits and has a crammed schedule. The studies to which he has devoted the past 20 years have had to become a hobby, like the watercolours he paints. The Campbells have moved from the suburbs to a flat near the Fifth Avenue museum. It comes with what many consider the international museum world's top job.

Cinderella also comes to mind when considering the events of the past year. During the search for a successor to Philippe de Montebello, the French-born director who was retiring after 31 years as head of the museum, Mr Campbell, a British tapestry specialist, never featured on the gossips' shortlist, although all but two of the museum's directors in the last century have been recruited from within. Mr Campbell joined the Met in 1995, but he has never headed a department and was only one of its ten curators in European sculpture and decorative arts.

What the gossips overlooked—but the search committee did not—are the two exceptional exhibitions of Renaissance and Baroque tapestries that he organised in 2002 and 2007. A surprise hit with both public and critics, the shows demonstrated Mr Campbell's considerable scholarly, diplomatic and administrative skills. In addition, supervising the museum's Antonio Ratti Textile Centre introduced him to curators from almost every department and increased his knowledge of the museum's immense holdings, which number more than 2m objects.

Thinking about his new role and all those treasures, Mr Campbell smiles and says, "I feel like a kid in a candy store." This is probably not a phrase the aristocratic Mr de Montebello would have uttered. Superficially, he and the boyish Mr Campbell could not be more different. Yet superficial is what their differences appear to be.

Mr de Montebello has been characterised as a connoisseur; a curator's director. He says that the choice of Mr Campbell as his successor "sends out a clear message that scholarship is more important than marketing". Mr Campbell is proud that, as he takes over, the Met has exhibitions on Babylonian trade routes, the Italian Renaissance, African textiles and 17th-century Chinese watercolours, all planned by his predecessor.

Both men prize scholarship, a global outlook and outreach, while keeping a respectful eye on the bottom line. Mr Campbell has inherited a well run, financially sound institution. Emily Rafferty, its president, is a gifted fund-raiser. The museum's last annual report values the endowment at $2.5 billion. Mr Campbell believes that the great encyclopedic museum he heads can be "a place of inspiration, almost of refuge and hope" in a difficult economic climate, but cuts will have to come. Some will not be unwelcome. In Mr Campbell's view fewer expensive loan shows will free up financial and creative resources for innovative displays of works from the permanent collection.

Some changes will not be money-saving. Not only does the new director intend to put the entire museum

collection online, but he is also eager to use the internet more inventively to “tell the great stories of the objects we own and give visitors a sense of their artistry.” Mr Campbell buzzes with ideas about how this might be done. “It is a world of opportunities,” he acknowledges but adds quickly, “the challenge is delivering quality content.” For all his boyish appearance and references to “The Wizard of Oz”, Mr Campbell speaks with conviction and determination. There is no doubting his maturity, as well as his enthusiasm and his passion, when he talks about his feeling for art and his sense of responsibility to the institution he leads as well as to its millions of visitors.

Hedgehogs

Prickly charmers

Dec 30th 2008
From The Economist print edition

ARISTOTLE believed hedgehogs could predict the weather. Arthur Schopenhauer, a philosopher, used them to illustrate the challenges of human intimacy. Beatrix Potter's Mrs Tiggy-Winkle has enchanted children and adults alike since 1905, while Sonic, her modern-day counterpart, is one of the world's best-known video game characters.

In this engaging memoir Hugh Warwick draws on 20 years of knowledge to explain why hedgehogs have gained such iconic status. He sprinkles his book with facts: hedgehogs snooze through the winter in an aptly named hibernaculum; they have up to 7,000 spines; their fleas are species specific; North America has no native hedgehogs although thousands of imported ones are kept as pets.

Mr Warwick also introduces several characters whose obsession with hedgehogs is all encompassing. Most memorable is Zug Standing Bear, a former war-crimes investigator, one-time bodyguard to Gerald Ford and now owner of Buttercup, whose athletic prowess won her a gold medal at the International Hedgehog Olympic Games in Denver, Colorado. As they say, it takes all sorts.

The Hedgehog's Dilemma: A Tale of Obsession, Nostalgia, and the World's Most Charming Mammal.
By Hugh Warwick.
Bloomsbury; 276 pages; $25. Published in Britain as "A Prickly Affair: My Life with Hedgehogs"; Allen Lane; £14.99

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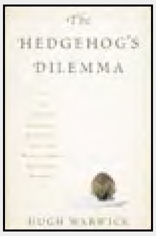

Bloomsbury; 276 pages; $25. Published in Britain as "A Prickly Affair: My Life with Hedgehogs"
Allen Lane; £14.99.

Harold Pinter

Dec 30th 2008
From The Economist print edition

Harold Pinter, playwright and polemicist, died on December 24th, aged 78

Rex Features

NOTHING in Harold Pinter's life explained the rage in him. A happy lower-middle-class childhood in an "immaculate house" in east London, the cherished only son of a Jewish tailor. Enjoyable years at Hackney Grammar, with an English teacher who inspired him. Batting, bowling, fielding slip, and all the lifelong joys of cricket. A close and loyal group of Hackney friends, whose friendship lasted. A decade acting in repertory up and down the country (sinister roles preferred), while delivering milk or clearing snow to bring in money. A rocky first marriage, with a seven-year affair, but a good, doting, purringly contented second one to Lady Antonia Fraser, the daughter of an earl. A cataclysmic start in playwriting with "The Birthday Party" in 1958, which was panned and ran a week in London, but then redemption and fame with "The Caretaker" two years later. Accolades, lionising, two dozen more plays, two dozen acclaimed screenplays ("Sleuth", "The Go-Between", "The French Lieutenant's Woman") and, in 2005, the Nobel prize for literature.

Laurels to rest on indeed. Yet this was also the man who last September appeared at Bolivar Hall in central London, paper-frail from cancer, needing the help of two sticks and three friends to get to the stage, and then thundered out in a furious bellow his "Reflection on the Gulf War":

> Hallelujah!
> It works.
> We blew the shit out of them.
> We blew the shit right back up their own ass
> And out their fucking ears.

Because he could be charming company, he and Lady Antonia were fixtures on the literary cocktail circuit. But he seldom cut a comfortable or happy figure. Instead he would stand beside her like a metaphor for silence and death, his black polo-neck pulled up ruthlessly to his big, baleful, staring head. Like Stanley in "The Birthday Party", caught up in a game of blind man's buff that turns very nasty, he seemed to expect at any moment the shadows to move in, knee him in the groin, break his glasses. Except that, unlike Stanley, he would roar back and punch them senseless. He would never let them tell him what to do.

His playwriting life, he said, was much like that. His characters rose up randomly (from the mere word "dark", the question "What have you done with the scissors?", an image of a couple by a window in Kilburn) and then began to play taunting games with him. They resisted him, went their own way. There was no true or false in them. No certainty, no verifiable past. Truths, he found as he wrote drama, "challenge each other, recoil from each other, reflect each other, ignore each other, tease each other, are blind to each other."

Accordingly, in his plays, questions went unanswered. Remarks were not risen to. A "what do you mean?" signalled the demolition of conversation. In "Betrayal" (1978), based on his own affair, two former lovers tiptoe round each other:

> Emma: Ever think of me?
> Jerry: I don't need to think of you.
> Emma: Oh?
> Jerry: I don't need to *think* of you. Anyway I'm all right.
> *Pause*.
> How are you?
> Emma: Fine, really. All right.

In Beckett, a strong influence on Mr Pinter in his beginnings, ordinary conversations would turn metaphysical. His own were packed with menace. Words were offensive, defensive, barriers, knives, stones, a "stratagem" or a "mocking smoke screen", as he put it, to cover nakedness. Underneath them, something else was being said. Truth was being smothered. He had felt it himself: the suffocation of drama school (abandoned after two terms), or National Service (doggedly resisted, and the fine paid, in 1949), or the bourgeois smugness of the London theatre scene in the late 1950s, which he had tried to explode. Like him, his characters often suddenly made for the window, desperate for air.

Or they fell silent. Silence, applied almost musically and poetically, let the dark in. Or the unsaid.

> *Silence.*
> *A drip sounds in the bucket. They all look up.*
> *Silence.*
> Mick: You still got that leak.
> Aston: Yes.
> *Pause*.

Mr Pinter's characters were often would-be homebuilders. They remembered the comforts of hot milk and hotwater bottles, dreamed of kitchens with matching worktops and lino tiles, dwelt longingly on casseroles and fried bread. But nothing could bridge the void or make it cosy. The theme Mr Pinter lived with and raged against was human alienation.

It was his own, as much as anyone's. Despite the contentments of his life he felt exposed to all the winds, naked and shelterless. Only lies would protect him, and as a writer he refused to lie. That was politicians' work, criminal Bush or supine Blair, or the work of his critics, who could go and fuck themselves.

But he also left them a more surprising instruction. It came from "No Man's Land", though it was also reminiscent of Ruth, restored to happiness of a sort, lightly touching Joey's head at the end of "The Homecoming": "Tender the dead as you would yourself be tendered, now, in what you would describe as your life."

Overview

Dec 30th 2008
From The Economist print edition

The housing bust in **America** shows few signs of bottoming out. Sales of lived-in homes fell by 8.6% in November, according to the National Association of Realtors. At November's depressed pace, it would take 11.2 months to clear the stock of unsold houses—up from 10.3 months in October and matching the peak in April. The median resale price for homes dropped by 13.2% in the year to November, a record decline. Sales of new homes fell by 2.9% in November.

Japan's recession is deepening. Industrial production plunged by 8.1% in November, the biggest monthly fall for more than half a century. The unemployment rate rose from 3.7% in October to 3.9% in November; consumer-price inflation fell from 1.7% to 1%.

Businessmen in **Italy** have rarely been more gloomy, according to ISAE, a Rome research group. Its index of business confidence fell for a seventh consecutive month in December. An index of business confidence in **Belgium**, seen as a good guide to conditions across the euro area, slumped to its lowest level since the series began in 1980.

Britain's current-account deficit widened to £7.7 billion in the third quarter, around 2.1% of GDP. The deficit in the second quarter was revised from £11.0 billion to £6.4 billion.

China's central bank cut its benchmark lending rate by 27 basis points (hundredths of a percentage point) to 5.31% on December 22nd, the fifth reduction in three months. A day later **Poland's** central bank cut its main interest rate from 5.75% to 5%.

Output, prices and jobs

Dec 30th 2008
From The Economist print edition

Output, prices and jobs

% change on year ago

	Gross domestic product				Industrial production	Consumer prices			Unemployment
	latest	qtr*	2008†	2009†	latest	latest	year ago	2008†	rate‡, %
United States	+0.7 Q3	−0.5	+1.3	−1.0	−5.5 Nov	+1.1 Nov	+4.3	+4.1	6.7 Nov
Japan	−0.5 Q3	−1.8	+0.3	−0.9	−16.2 Nov	+1.0 Nov	+0.6	+1.6	3.9 Nov
China	+9.0 Q3	na	+9.6	+7.5	+5.4 Nov	+2.4 Nov	+6.9	+6.2	9.2 2007
Britain	+0.3 Q3	−2.0	+0.8	−1.4	−5.2 Oct	+4.1 Nov§	+2.1	+3.7	6.0 Oct††
Canada	+0.5 Q3	+1.3	+0.6	+0.1	−3.7 Sep	+2.0 Nov	+2.5	+2.7	6.3 Nov
Euro area	+0.7 Q3	−0.8	+0.9	−0.9	−5.3 Oct	+2.1 Nov	+3.1	+3.2	7.7 Oct
Austria	+1.5 Q3	+0.6	+1.6	−0.4	−2.7 Oct	+2.3 Nov	+3.1	+3.2	3.0 Oct
Belgium	+1.3 Q3	+0.4	+1.3	−0.4	+3.3 Sep	+3.1 Nov	+2.9	+4.5	10.5 Nov‡‡
France	+0.5 Q3	+0.5	+0.9	−0.7	−7.2 Oct	+1.6 Nov	+2.4	+3.0	8.2 Oct
Germany	+0.8 Q3	−2.1	+1.4	−1.0	−3.9 Oct	+1.4 Nov	+3.2	+2.6	7.5 Nov
Greece	+3.1 Q3	+2.0	+2.6	+1.4	−4.5 Oct	+2.9 Nov	+3.9	+4.4	7.4 Sep
Italy	−0.9 Q3	−2.1	−0.3	−1.1	−6.9 Oct	+2.7 Nov	+2.4	+3.4	6.7 Q3
Netherlands	+1.8 Q3	+0.1	+2.0	−0.4	−2.5 Oct	+2.3 Nov	+1.9	+2.5	3.8 Nov††
Spain	+0.9 Q3	−0.9	+1.3	−1.1	−11.2 Oct	+2.4 Nov	+4.1	+4.4	12.8 Oct
Czech Republic	+4.2 Q3	+3.8	+4.2	+3.0	−7.6 Oct	+4.4 Nov	+5.0	+6.6	5.3 Nov
Denmark	−1.2 Q3	−1.9	nil	−0.7	−5.1 Oct	+2.7 Nov	+2.5	+3.5	1.7 Oct
Hungary	+0.8 Q3	−0.3	+1.2	−1.5	−7.2 Oct	+4.2 Nov	+7.1	+6.3	7.7 Oct††
Norway	+0.6 Q3	−2.8	+1.8	−0.2	−0.9 Oct	+3.2 Nov	+1.5	+3.8	2.5 Sep***
Poland	+4.8 Q3	na	+5.1	+2.9	−8.9 Nov	+3.7 Nov	+3.6	+4.3	9.1 Nov‡‡
Russia	+6.2 Q3	na	+7.0	+3.7	−8.7 Nov	+13.8 Nov	+11.5	+14.1	6.1 Oct‡‡
Sweden	nil Q3	−0.4	+1.0	−0.1	−7.1 Oct	+2.5 Nov	+3.3	+3.7	6.2 Nov‡‡
Switzerland	+1.7 Q3	+0.1	+1.8	−0.2	+0.7 Q3	+1.5 Nov	+1.8	+2.5	2.7 Nov
Turkey	+0.5 Q3	na	+2.5	+1.5	−8.5 Oct	+10.8 Nov	+8.4	+10.6	9.0 Q3‡‡
Australia	+1.9 Q3	+0.3	+2.4	+1.1	+2.8 Q2	+5.0 Q3	+1.9	+4.4	4.4 Nov
Hong Kong	+1.7 Q3	−2.0	+3.1	−1.0	−6.7 Q3	+3.1 Nov	+3.4	+4.2	3.8 Nov††
India	+7.6 Q3	na	+6.2	+6.1	−0.4 Oct	+10.4 Oct	+5.5	+8.3	7.2 2007
Indonesia	+6.1 Q3	na	+6.1	+3.5	+7.0 Oct	+11.7 Nov	+5.6	+10.5	8.5 Feb
Malaysia	+4.7 Q3	na	+5.6	+3.2	−3.1 Oct	+5.7 Nov	+2.3	+5.8	3.5 Q2
Pakistan	+5.8 2008**	na	+6.0	+1.4	−6.8 Sep	+24.7 Nov	+8.7	+20.8	5.6 2007
Singapore	−0.6 Q3	−6.8	+2.2	−2.2	−7.5 Nov	+5.5 Nov	+4.2	+6.6	2.2 Q3
South Korea	+3.8 Q3	+2.1	+4.2	−1.7	−1.7 Nov	+4.5 Nov	+3.5	+5.0	3.3 Nov
Taiwan	−1.0 Q3	na	+2.3	−2.9	−28.4 Nov	+1.9 Nov	+4.8	+3.8	4.6 Nov
Thailand	+4.0 Q3	+2.3	+4.0	+1.9	+2.0 Oct	+2.2 Nov	+3.0	+5.8	1.2 Aug
Argentina	+6.2 Q3	+5.4	+6.2	+2.2	−7.2 Nov	+7.9 Nov	+8.5	+9.0	7.8 Q3††
Brazil	+6.8 Q3	+7.4	+5.3	+2.4	+0.8 Oct	+6.4 Nov	+4.2	+5.8	7.6 Nov‡‡
Chile	+4.8 Q3	−0.2	+3.9	+1.0	−0.8 Oct	+8.9 Nov	+7.4	+8.9	7.5 Oct††‡‡
Colombia	+3.7 Q2	+2.8	+3.2	+2.0	−7.5 Oct	+7.7 Nov	+5.4	+7.1	10.1 Oct‡‡
Mexico	+1.6 Q3	+2.6	+1.8	−0.2	−2.7 Oct	+6.2 Nov	+3.9	+5.2	4.5 Nov‡‡
Venezuela	+4.6 Q3	na	+4.2	−3.0	−6.8 Aug	+32.7 Nov	+20.7	+30.5	7.2 Q3‡‡
Egypt	+6.8 Q2	na	+7.2	+5.1	+6.8 Q2	+20.3 Nov	+6.9	+18.4	8.6 Q3‡‡
Israel	+5.1 Q3	+2.3	+4.2	+1.8	+3.0 Sep	+4.5 Nov	+2.8	+4.7	5.9 Q3
Saudi Arabia	+3.5 2007	na	+6.0	+3.0	na	+10.4 Sep	+4.9	+8.5	na
South Africa	+2.9 Q3	+0.2	+3.5	+2.5	−1.6 Oct	+11.8 Nov	+8.4	+11.4	23.2 Sep‡‡
MORE COUNTRIES Data for the countries below are not provided in printed editions of *The Economist*									
Estonia	−3.5 Q3	na	−2.0	−2.5	−11.0 Oct	+8.0 Nov	+9.1	+10.5	7.5 Oct
Finland	+1.3 Q3	+0.4	+1.6	−0.7	+0.8 Oct	+3.6 Nov	+2.9	+4.2	6.5 Nov
Iceland	−0.8 Q3	−5.5	−0.5	−9.7	+0.4 2007	+18.1 Dec	+5.9	+13.8	3.3 Nov‡‡
Ireland	+0.1 Q3	+4.7	−2.5	−2.9	−9.8 Oct	+2.5 Nov	+5.0	+4.2	7.8 Nov
Latvia	−4.6 Q3	na	−1.5	−7.0	−9.0 Oct	+11.8 Nov	+13.7	+15.7	7.2 Oct
Lithuania	+3.1 Q3	+1.6	+4.4	+1.6	na	+9.1 Nov	+7.8	+11.0	5.0 Nov‡‡
Luxembourg	+2.8 Q2	+4.5	+2.5	+1.5	−13.1 Oct	+2.0 Nov	+3.2	+4.0	4.7 Nov‡‡
New Zealand	−1.4 Q3	−2.7	+0.3	+1.1	+2.4 Q2	+5.1 Q3	+1.8	+4.3	4.2 Q3
Peru	+8.7 Oct	na	+9.1	+5.5	+3.6 Oct	+6.7 Nov	+3.5	+5.7	7.3 Oct‡‡
Philippines	+4.6 Q3	+3.4	+4.2	+1.8	+12.5 Sep	+9.9 Nov	+3.2	+9.6	6.8 Q4‡‡
Portugal	+0.6 Q3	−0.5	+0.4	−0.8	−3.0 Oct	+1.4 Nov	+2.8	+2.9	7.7 Q3††
Slovakia	+7.0 Q3	na	+6.8	+3.3	nil Oct	+4.9 Nov	+3.1	+4.6	7.8 Nov‡‡
Slovenia	+3.8 Q3	na	+4.2	+2.0	−3.1 Oct	+3.1 Nov	+5.7	+5.9	6.6 Oct‡‡

*% change on previous quarter, annual rate. †*The Economist* poll or Economist Intelligence Unit estimate/forecast. ‡National definitions.- §RPI inflation rate 3.0% in Nov. **Year ending June. ††Latest three months. ‡‡Not seasonally adjusted. ***Centred 3-month average

Sources: National statistics offices and central banks; Thomson Datastream; Reuters; Centre for Monitoring Indian Economy; OECD; ECB

The Economist commodity-price index

Dec 30th 2008
From The Economist print edition

The Economist commodity-price index

2000=100

	Dec 16th	Dec 23rd*	% change on one month	% change on one year
Dollar index				
All items	150.5	153.7	-2.3	-30.0
Food	178.1	181.8	+3.7	-16.5
Industrials				
All	114.8	117.4	-12.5	-47.1
Nfa†	103.8	111.9	-4.8	-37.4
Metals	120.9	120.4	-15.9	-51.0
Sterling index				
All items	149.3	158.6	+1.7	-5.5
Euro index				
All items	101.1	102.0	-9.0	-27.9
Gold				
$ per oz	836.65	840.20	+3.7	+3.6
West Texas Intermediate				
$ per barrel	44.10	39.10	-23.2	-58.4

*Provisional †Non-food agriculturals.

Unemployment rates

Dec 30th 2008
From The Economist print edition

Unemployment in many rich countries has already risen above the “structural” rates—ie, consistent with stable inflation—estimated by the OECD. So far, the countries worst affected by increasing joblessness are those suffering painful housing busts. Among the hardest hit is Spain. The OECD’s economists reckon the country’s structural unemployment rate in 2009 will be just under 9% but the actual figure has already reached 12.8%. Ireland’s jobless rate has vaulted to 7.8%, well above its structural rate of 4.7%. In Britain and America, too, unemployment is now at a level that indicates too much slack in the economy. Unemployment in Germany is still slightly below the OECD’s estimate of its sustainable level.

Trade, exchange rates, budget balances and interest rates

Dec 30th 2008
From The Economist print edition

Trade, exchange rates, budget balances and interest rates

	Trade balance*	Current-account balance		Currency units, per $		Budget balance	Interest rates, %	
	latest 12 months, $bn	latest 12 months, $bn	% of GDP 2008†	Dec 30th	year ago	% of GDP 2008†	3-month latest	10-year gov't bonds, latest
United States	−853.1 Oct	−697.9 Q3	−4.5	–	–	−3.2	0.44	2.18
Japan	+56.4 Oct	+176.5 Oct	+3.8	90.1	112	−3.3	0.62	1.22
China	+278.8 Nov	+371.8 2007	+10.5	6.85	7.30	0.2	1.86	2.70
Britain	−182.6 Oct	−45.6 Q3	−3.0	0.69	0.50	−5.3	2.73	3.29
Canada	+52.2 Oct	+19.2 Q3	+1.0	1.22	0.99	0.2	0.87	3.07
Euro area	−38.7 Oct	−51.4 Sep	−0.4	0.70	0.68	−1.6	2.97	2.89
Austria	+0.1 Sep	+14.5 Q2	+3.0	0.70	0.68	−1.0	2.97	3.83
Belgium	+10.2 Aug	−9.8 Jun	+0.7	0.70	0.68	−0.8	3.01	3.78
France	−82.7 Oct	−57.1 Oct	−1.7	0.70	0.68	−3.0	2.97	3.40
Germany	+283.3 Oct	+265.5 Oct	+6.6	0.70	0.68	0.3	2.97	2.94
Greece	−68.9 Oct	−52.5 Sep	−10.3	0.70	0.68	−3.2	2.97	5.18
Italy	−17.8 Oct	−70.8 Sep	−3.0	0.70	0.68	−2.6	2.97	4.25
Netherlands	+58.7 Oct	+67.6 Q3	+6.3	0.70	0.68	1.1	2.97	3.54
Spain	−153.9 Sep	−165.8 Sep	−10.0	0.70	0.68	−3.3	2.97	3.82
Czech Republic	+5.6 Oct	−5.8 Oct	−2.9	18.7	18.2	−1.9	3.62	4.07
Denmark	+6.4 Oct	+5.8 Oct	+1.1	5.23	5.10	3.9	6.75	3.37
Hungary	nil Oct	−8.8 Q2	−5.0	187	173	−3.4	10.00	9.32
Norway	+82.5 Nov	+86.5 Q3	+18.4	6.99	5.43	19.7	4.12	3.83
Poland	−22.8 Oct	−28.1 Oct	−5.6	2.90	2.46	−1.8	5.90	5.40
Russia	+194.6 Oct	+116.5 Q3	+6.0	29.2	24.5	5.8	13.00	9.22
Sweden	+17.7 Nov	+40.5 Q3	+7.6	7.74	6.46	2.4	1.35	2.46
Switzerland	+18.2 Nov	+60.2 Q2	+9.8	1.04	1.13	0.9	0.69	1.99
Turkey	−75.2 Oct	−47.1 Sep	−6.4	1.52	1.17	−1.6	17.48	7.69‡
Australia	−9.0 Oct	−56.7 Q3	−5.5	1.44	1.14	0.3	4.03	4.09
Hong Kong	−27.2 Oct	+27.1 Q3	+9.4	7.75	7.80	−3.9	1.00	1.20
India	−109.6 Oct	−21.9 Q2	−3.6	48.4	39.4	−4.3	5.43	6.45
Indonesia	+13.5 Oct	+3.9 Q3	+0.4	11,100	9,393	−1.4	12.09	9.50‡
Malaysia	+42.0 Oct	+35.3 Q2	+12.8	3.48	3.31	−5.0	3.40	4.77‡
Pakistan	−22.0 Nov	−14.0 Q2	−5.7	79.3	61.6	−6.8	15.50	24.60‡
Singapore	+19.7 Nov	+29.2 Q3	+16.6	1.44	1.44	0.8	0.91	2.11
South Korea	−14.2 Nov	−7.9 Nov	−2.2	1,265	936	1.1	3.98	4.48
Taiwan	+3.9 Nov	+28.8 Q3	+6.4	33.0	32.4	−1.6	1.80	1.44
Thailand	−1.3 Nov	+2.6 Oct	−1.0	35.0	33.7	−1.4	3.85	2.43
Argentina	+14.1 Nov	+9.0 Q3	+2.7	3.44	3.15	0.7	19.56	na
Brazil	+26.1 Nov	−26.6 Oct	−1.8	2.40	1.78	−1.5	13.66	6.16‡
Chile	+11.2 Nov	−1.6 Q3	−2.6	632	498	5.9	8.28	2.85‡
Colombia	+2.7 Oct	−4.9 Q2	−2.4	2,242	2,017	−1.0	9.82	6.86‡
Mexico	−14.5 Nov	−11.8 Q3	−1.7	13.5	10.9	nil	7.97	8.00
Venezuela	+50.2 Q3	+49.4 Q3	+15.5	5.20	5.50§	−1.1	17.24	6.55‡
Egypt	−23.4 Q2	+0.9 Q2	+0.8	5.53	5.52	−6.8	11.63	5.74‡
Israel	−14.4 Nov	+2.6 Q3	+1.3	3.84	3.85	−0.7	2.23	3.71
Saudi Arabia	+150.8 2007	+95.0 2007	+30.3	3.75	3.75	10.7	2.65	na
South Africa	−9.5 Oct	−23.2 Q3	−7.8	9.47	6.83	0.2	11.50	7.33
MORE COUNTRIES Data for the countries below are not provided in printed editions of *The Economist*								
Estonia	−4.0 Oct	−2.7 Oct	−11.9	11.0	10.7	−1.0	7.87	na
Finland	+11.4 Oct	+8.1 Oct	+3.8	0.70	0.68	4.5	2.99	3.68
Iceland	−0.7 Nov	−5.4 Q3	−17.3	122	62.7	0.3	18.38	na
Ireland	+39.9 Sep	−16.4 Q3	−2.6	0.70	0.68	−6.5	2.97	4.19
Latvia	−6.1 Oct	−5.1 Oct	−14.2	0.50	0.48	−2.0	11.23	na
Lithuania	−7.7 Oct	−6.5 Oct	−13.9	2.43	2.36	−0.9	9.89	na
Luxembourg	−7.5 Sep	+5.1 Q2	na	0.70	0.68	0.3	2.97	na
New Zealand	−3.7 Oct	−11.6 Q3	−7.1	1.72	1.30	0.3	4.90	4.89
Peru	+5.5 Sep	−3.0 Q3	−2.8	3.13	3.00	2.7	6.60	na
Philippines	−8.6 Sep	+4.3 Jun	+1.8	47.6	41.3	−0.9	5.25	na
Portugal	−34.1 Sep	−28.7 Sep	−9.7	0.70	0.68	−2.4	2.97	3.95
Slovakia	−0.8 Sep	−5.9 Aug	−6.0	21.2	23.0	−2.3	2.60	4.04
Slovenia	−4.6 Sep	−3.4 Sep	−6.6	0.70	0.68	0.4	2.97	na

*Merchandise trade only. †*The Economist* poll or Economist Intelligence Unit forecast. ‡Dollar-denominated bonds. §Unofficial exchange rate.
Sources: National statistics offices and central banks; Thomson Datastream; Reuters; JPMorgan; Bank Leumi le-Israel; Centre for Monitoring Indian Economy; Danske Bank; Hong Kong Monetary Authority; Standard Bank Group; UBS; Westpac.

Markets

Dec 30th 2008
From The Economist print edition

Markets

	Index Dec 29th	% change on one week	% change on Dec 31st 2007 in local currency	% change on Dec 31st 2007 in $ terms
United States (DJIA)	8,483.9	−0.4	−36.0	−36.0
United States (S&P 500)	869.4	−0.3	−40.8	−40.8
United States (NAScomp)	1,510.3	−1.4	−43.1	−43.1
Japan (Nikkei 225)	8,747.2	+0.3	−42.9	−29.2
Japan (Topix)	854.8	+0.7	−42.1	−28.2
China (SSEA)	1,943.1	−6.9	−64.8	−62.5
China (SSEB, $ terms)	111.1	−5.5	−71.5	−69.6
Britain (FTSE 100)	4,319.4	+1.7	−33.1	−51.1
Canada (S&P TSX)	8,637.3	+4.7	−37.6	−49.6
Euro area (FTSE Euro 100)	728.6	−0.1	−47.0	−48.4
Euro area (DJ STOXX 50)	2,388.3	−0.4	−45.7	−47.1
Austria (ATX)	1,751.5	+3.0	−61.2	−62.2
Belgium (Bel 20)	1,883.2	+2.1	−54.4	−55.6
France (CAC 40)	3,130.7	−0.7	−44.2	−45.7
Germany (DAX)*	4,704.9	+1.4	−41.7	−43.2
Greece (Athex Comp)	1,751.6	+2.3	−66.2	−67.1
Italy (S&P/MIB)	19,167.0	−0.3	−50.3	−51.6
Netherlands (AEX)	240.8	−1.1	−53.3	−54.5
Spain (Madrid SE)	958.3	−1.0	−41.6	−43.2
Czech Republic (PX)	867.6	+5.8	−52.2	−53.5
Denmark (OMXCB)	225.7	nil	−49.7	−51.0
Hungary (BUX)	12,165.2	−4.8	−53.6	−57.2
Norway (OSEAX)	265.0	+3.2	−53.5	−63.9
Poland (WIG)	27,095.9	+1.0	−51.3	−58.8
Russia (RTS, $ terms)	642.8	−2.2	−66.6	−71.9
Sweden (Aff.Gen)	195.0	+0.3	−42.7	−52.2
Switzerland (SMI)	5,465.0	+0.8	−35.6	−30.0
Turkey (ISE)	26,423.6	+0.9	−52.4	−63.2
Australia (All Ord.)	3,554.2	+1.8	−44.6	−56.6
Hong Kong (Hang Seng)	14,328.5	−2.0	−48.5	−48.2
India (BSE)	9,533.5	−4.0	−53.0	−61.7
Indonesia (JSX)	1,340.9	−0.3	−51.2	−58.7
Malaysia (KLSE)	867.4	−0.7	−40.0	−43.0
Pakistan (KSE)	6,294.7	−12.8	−55.3	−65.2
Singapore (STI)	1,780.6	+2.0	−48.6	−48.6
South Korea (KOSPI)	1,117.6	−5.3	−41.1	−56.4
Taiwan (TWI)	4,416.2	−2.6	−48.1	−49.0
Thailand (SET)	446.7	+2.9	−47.9	−49.9
Argentina (MERV)	1,076.4	+3.0	−50.0	−54.2
Brazil (BVSP)	37,060.0	−1.5	−42.0	−57.0
Chile (IGPA)	11,306.9	+1.3	−19.7	−36.7
Colombia (IGBC)	7,522.5	−1.3	−29.7	−36.7
Mexico (IPC)	22,392.4	+1.5	−24.2	−38.8
Venezuela (IBC)	34,900.7	+1.3	−7.9	−59.1
Egypt (Case 30)	4,324.3	−0.6	−58.7	−58.8
Israel (TA-100)	547.1	−5.4	−52.6	−52.4
Saudi Arabia (Tadawul)	4,710.8	−0.8	−57.3	−57.4
South Africa (JSE AS)	21,237.6	+0.7	−26.7	−47.1
Europe (FTSEurofirst 300)	810.4	+0.1	−46.2	−47.6
World, dev'd (MSCI)	901.1	+0.9	−43.3	−43.3
Emerging markets (MSCI)	557.5	−1.7	−55.2	−55.2
World, all (MSCI)	223.0	+0.7	−44.7	−44.7
World bonds (Citigroup)	820.4	+1.2	+12.3	+12.3
EMBI+ (JPMorgan)	390.4	+0.7	−10.0	−10.0
Hedge funds (HFRX)‡	1,021.4	−0.1	−23.2	−23.2
Volatility, US (VIX)	43.9	44.6	22.5	(levels)
CDSs, Eur (iTRAXX)†	180.3	−1.8	+256.3	+246.9
CDSs, N Am (CDX)†	229.5	−1.5	+194.6	+194.6
Carbon trading (EU ETS) €	15.9	−0.6	−30.2	−32.0

*Total return index. †Credit-default swap spreads, basis points.
Sources: National statistics offices, central banks and stock exchanges; Thomson Datastream; Reuters; WM/Reuters; JPMorgan Chase; Bank Leumi le-Israel; CBOE; CMIE; Danske Bank; EEX; HKMA; Markit; Standard Bank Group; UBS; Westpac. ‡Dec 26th.

South Korea

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